TERM 3 - BREAK UP FOR EXAMINATION

Academic Year / العام الدراسي	2023/2024
Term / الفصل	3
Subject / المادة	Mathematics/Reveal / الرياضيات/ريفيل
Grade / الصف	5
Stream / المسار	General / العام
Number of MCQ / عدد الأسئلة الموضوعية	15
Marks of MCQ / درجة الأسئلة الموضوعية	4
Number of FRQ / عدد الأسئلة المقالية	5
Marks per FRQ / الدرجات للأسئلة المقالية	(7-9)
Type of All Questions / نوع كافة الأسئلة	الأسئلة الموضوعية/ MCQ / الأسئلة المقالية/ FRQ
Maximum Overall Grade / الدرجة القصوى الممكنة	100
Exam Duration - مدة الامتحان	150 minutes
Mode of Implementation -ورقة التطبيق	Paper-Based
Calculator / الآلة الحاسبة	Not Allowed / غير مسموحة

Question* السؤال*		Lesson Name** اسم الدرس **	Reference(s) in the Student Book (English Version) المرجع في كتاب الطالب (النسخة الانجليزية)	
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(left margin label: MCQ - الأسئلة الموضوعية)

*	Questions might appear in a different order in the actual exam, or on the exam paper.
*	قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي، أو على ورقة الامتحان .
**	As it appears in the textbook,and LMS.
**	كما وردت في كتاب الطالب وLMS .

Al Taawun School

Solve each problem. If there is a remainder, decide how to represent and interpret the remainder.

1. Grace walked the number of miles shown over the course of 7 days. She walked the same number of miles each day. How many miles did she walk each day?

20 mi

2. There were 210 balloons at a fair. Each of the 50 children that attended the fair got the same number of balloons. How many balloons did each child get?

3. Dawn made 50 bracelets. She gave each of her 12 friends the same number of bracelets. How many bracelets did Dawn give to each of her friends?

Would you write the quotient for the problem with a remainder or as a mixed number?

4. Equal amounts of juice are poured into different glasses
   A. remainder
   B. mixed number

5. The same number of books must be put on each shelf.
   A. remainder
   B. mixed number

6. A dog is fed the same amount of food every day.
   A. remainder
   B. mixed number

7. Someone gives out the same number of flowers to each of 5 friends.
   A. remainder
   B. mixed number

1. Number of days = 7

   Total miles walked = 20

   She walked each day = 20 ÷ 7

$$7\overline{)20} \quad \begin{array}{c} 2 \\ -14 \\ \hline 6 \end{array}$$

   Remainder ↙ 6

$$= 2\frac{6}{7} \text{ miles}$$

$$= 2R6$$

2. Number of balloons = 210

   Number of children = 50

   Each child got balloons = 210 ÷ 50

$$50\overline{)210} \quad \begin{array}{c} 4 \\ -200 \\ \hline 10 \end{array}$$

   Remainder ↙ 10

$$= 4\frac{10}{50}$$

$$= 4R10$$

   So each child got 4 balloons and 10 were left

3. Number of bracelets = 50

   Number of friends = 12

   Each friend gets bracelet = 50 ÷ 12

$$12\overline{)50} \quad \begin{array}{c} 4 \\ 48 \\ \hline 2 \end{array}$$

$$= 4\frac{2}{12}$$

$$= 4R2$$

   Each friend gets 4 bracelets and 2 are left.

4. A. Mixed Number   5. A. Remainder

6. B. Mixed Number

| 1 | U11L2 | a) Solve Problems Involving Division | (8-12) | Page :136 |

Solve each problem. If there is a remainder, decide how to represent and interpret the remainder.

8. A water cooler holds 80 cups of water. If 30 people each get an equal amount of water, how many cups of water does each person get?

9. A baker has this bag of flou . He puts equal amounts of flour in 4 canisters. How many pounds of flour are in each canister?

25 lb

10. Ryan has 320 pencils. He gives an equal number of pencils to each of 15 friends. How many pencils does he give each friend?

11. Rose has a piece of ribbon that is 150 inches long. She is cutting the ribbon into 20 equal pieces. How long will each piece be?

12. **Extend Your Thinking** Drew has 169 toy cars that he is organizing into boxes. Each box can hold 30 cars. How many boxes does he need?

8. Cups of water = 80
   Number of people = 30
   Each person gets cups of water = $80 \div 30$

$$30 \overline{)80} = 2\frac{20}{30}$$
$$\underline{-60}$$
$$20 = 2 \, R \, 20$$

Remainder

Each person gets 2 cups of water and 20 cups are left

9. Bag of flour = 25 lb
   Number of canisters = 4
   Flour in each canister = $25 \div 4$

$$4 \overline{)25} = 6\frac{1}{4}$$
$$\underline{-24}$$
$$1 = 6 \, R \, 1$$

Remainder

$6\frac{1}{4}$ pounds flour is put in each canister.

10. Number of pencils = 320
    Number of friends = 15
    Each friend gets pencils = $320 \div 15$

$$15 \overline{)320} = 21\frac{5}{15}$$
$$\underline{-30}$$
$$20 = 21 \, R \, 5$$
$$\underline{-15}$$
$$5$$

Remainder

Each friend gets 21 pencils and 5 are left

11. Length of Ribbon = 150 inches

Number of pieces = 20

length of each piece = $150 \div 20$

$$20\overline{)150} \quad = \quad 7\frac{10}{20} \text{ inches}$$
$$\frac{140}{10}$$
$$= \quad 7\frac{10 \div 10}{20 \div 10}$$

$$= \quad 7\frac{1}{2} \text{ inches}$$

Each piece length = $7\frac{1}{2}$ inches

12. Number of Toy cars = 169

Number of cars in each box = 30

Boxes needed = $169 \div 30$

$$30\overline{)169} \quad = \quad 5\frac{19}{30}$$
$$\underline{-150}$$
$$\nearrow 19 \quad = \quad 5R19$$

Remainder

Boxes needed will be 6 because the answer has value more than 5. and number of boxes are written in counting numbers.

| 1 | U11L4 | b) Divide Whole Numbers by Unit Fractions | (10,11) | Page :143 |

10. Keri is making trail mix that contains $\frac{1}{3}$ cup of sunflowe seeds per serving. How many servings can she make with this bag?

2 cups

11. A clock chimes every $\frac{1}{4}$ hour. How many times will the clock chime in 6 hours?

10. Sunflower seeds per serving $= \frac{1}{3}$ cup

Number of cups $= 2$

Number of servings $= 2 \div \frac{1}{3}$

$$= 2 \times 3$$
$$= 6$$

2 cups

$\frac{1}{3}$ cup of seeds
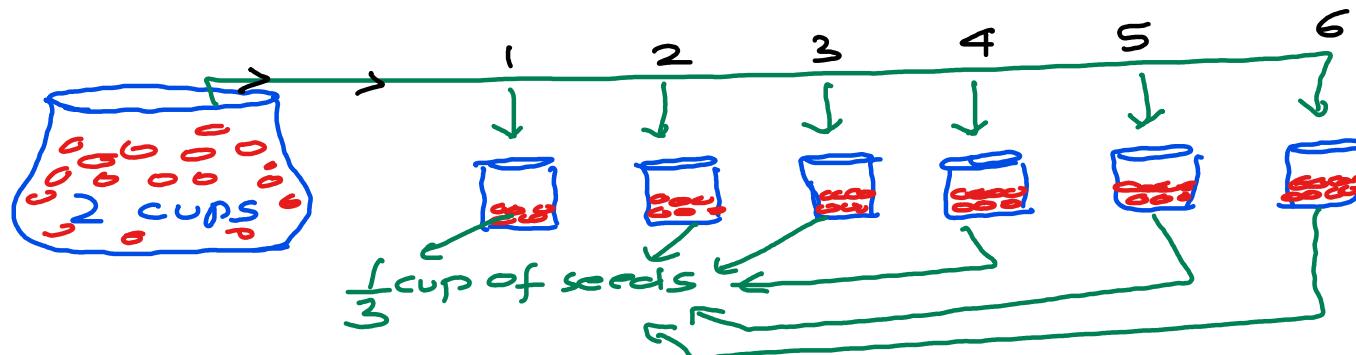
11. Total hours $= 6$

The clock chimes every $\frac{1}{4}$ hour

Number of times it chimes in 6 hour

$$= 6 \div \frac{1}{4}$$
$$= 6 \times 4$$
$$= 24 \text{ times}$$

1 hour

The clock chimes 4 times in 1 hour
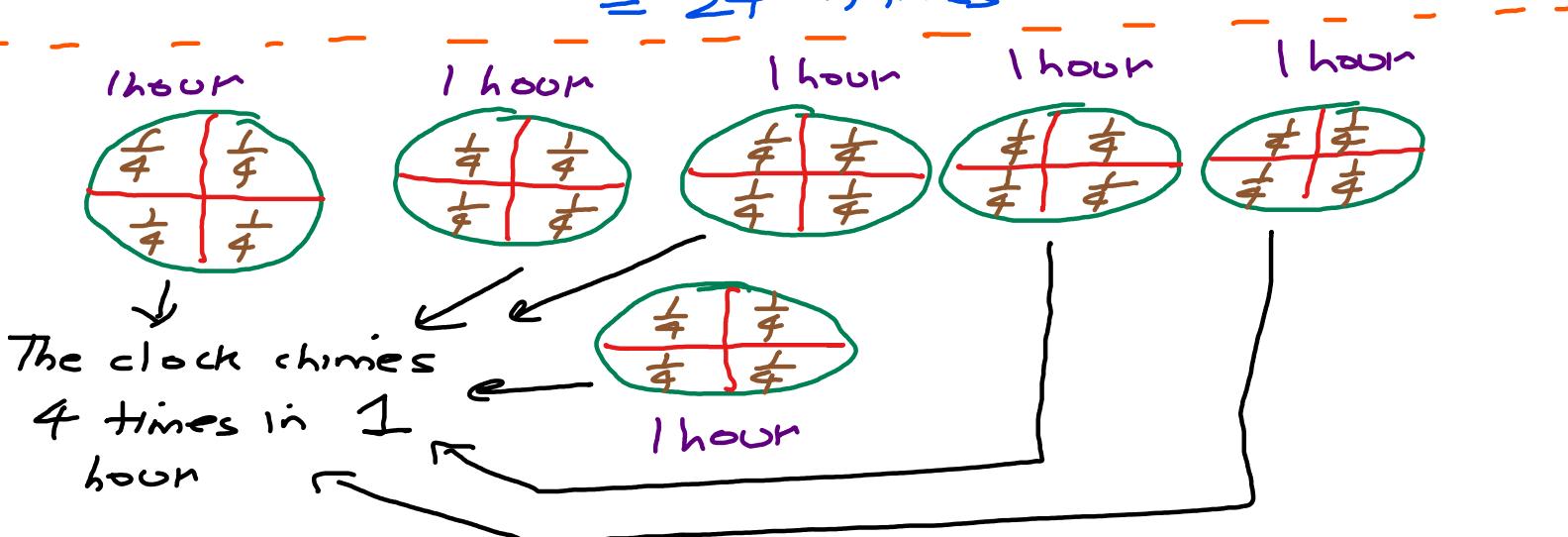
$\frac{1}{4}$ parts in all circles $= 24$

1	U11L4	b) Divide Whole Numbers by Unit Fractions	(12-14)	Page :144

12. Mia hiked 4 miles. There were trail markers every $\frac{1}{10}$ mile. How many trail markers did Mia see during her hike?

13. STEM Connection Poppy is visiting a park that is 15 acres. The park is divided into sections that are each $\frac{1}{3}$ acre. How many sections does the park have?

14. Jaxon has 10 gallons of punch. He pours the punch into pitchers that each hold $\frac{1}{2}$ gallon. How many pitchers does Jaxon use?

12. Total distance = 4 miles
Trail markers at every $\frac{1}{10}$ miles

$\leftarrow$ 4 miles $\rightarrow$

$\frac{1}{10}$ miles $\frac{1}{10}$ miles $\frac{1}{10}$ miles
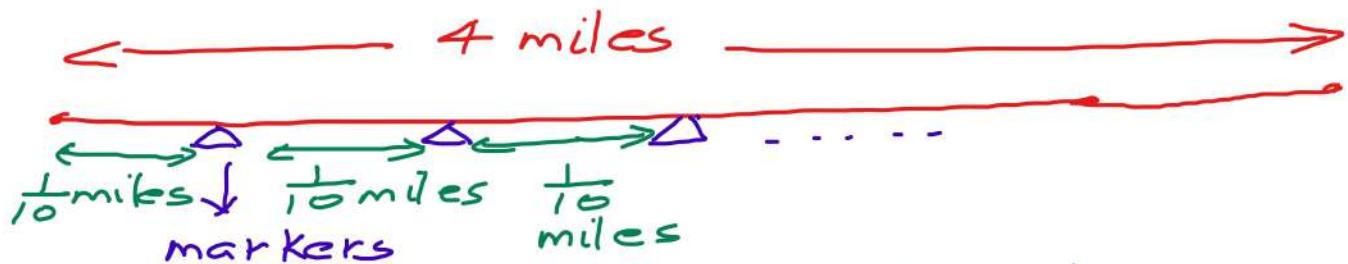
markers

Total markers Mia saw $= 4 \div \frac{1}{10}$

$$= 4 \times 10$$
$$= 40 \text{ markers}$$

13. Total park = 15 acres
length of each section $= \frac{1}{3}$ acre

PARK = 15 acres

$\frac{1}{3}$
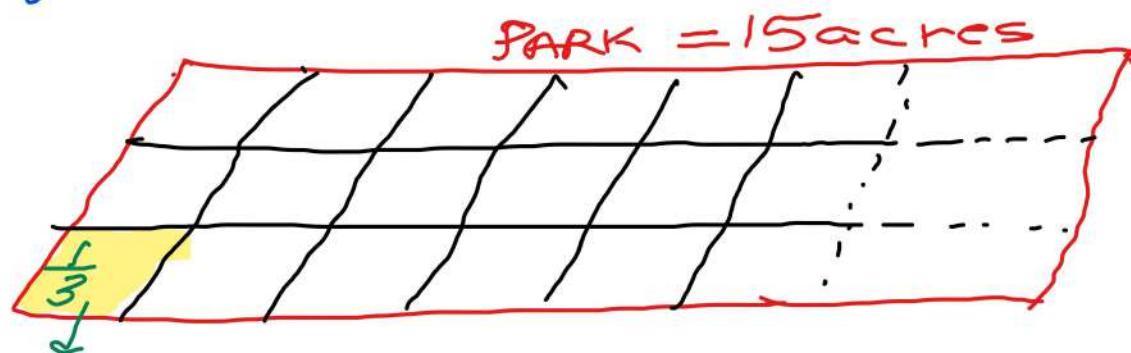
Each section

Total sections $= 15 \div \frac{1}{3}$
$$= 15 \times 3$$
$$= 45 \text{ sections}$$

14. Total gallons = 10
Each pitcher $= \frac{1}{2}$ gallon

10 gallon

$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
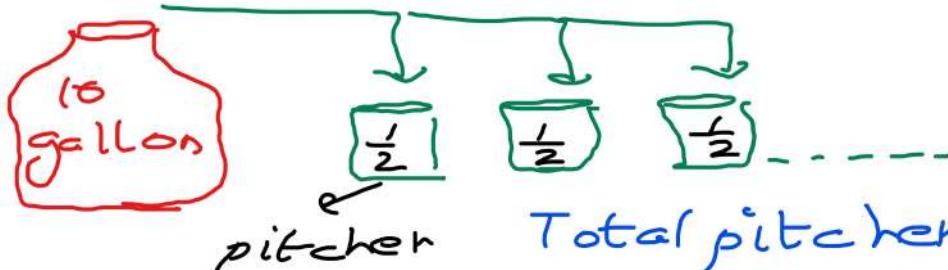
pitcher

Total pitcher $= 10 \div \frac{1}{2}$
$$= 10 \times 2$$
$$= 20 \text{ pitchers}$$

2	U11L5	a) Represent Division of Unit Fractions by Non-Zero Whole Numbers	(1-6)		Page :147

What is the quotient? Use a representation to solve.

1. $\frac{1}{3} \div 4 =$ _____

   A. $\frac{1}{12}$

   B. $\frac{4}{3}$

   C. $\frac{1}{16}$

   D. $\frac{1}{7}$

2. $\frac{1}{2} \div 9 =$ _____

   A. $\frac{1}{11}$

   B. $\frac{9}{2}$

   C. $\frac{1}{18}$

   D. $\frac{1}{20}$

3. $\frac{1}{8} \div 3 =$ _____

4. $\frac{1}{4} \div 2 =$ _____

5. $\frac{1}{5} \div 5 =$ _____

6. $\frac{1}{3} \div 2 =$ _____

1. $\frac{1}{3} \div 4$

$\frac{1}{3} \times \frac{1}{4}$

$\frac{1 \times 1}{3 \times 4}$

$\frac{1}{12}$

(A)

2. $\frac{1}{2} \div 9$

$\frac{1}{2} \times \frac{1}{9}$

$\frac{(1 \times 1)}{2 \times 9}$

$\frac{1}{18}$

(C)

3. $\frac{1}{8} \div 3$

$\frac{1}{8} \times \frac{1}{3}$

$\frac{(1 \times 1)}{8 \times 3}$

$\frac{1}{24}$

4. $\frac{1}{4} \div 2$

$\frac{1}{4} \times \frac{1}{2}$

$\frac{(1 \times 1)}{4 \times 2}$

$\frac{1}{8}$

5. $\frac{1}{5} \div 5$

$\frac{1}{5} \times \frac{1}{5}$

$\frac{(1 \times 1)}{5 \times 5}$

$\frac{1}{25}$

6. $\frac{1}{3} \div 2$

$\frac{1}{3} \times \frac{1}{2}$

$\frac{(1 \times 1)}{3 \times 2}$

$\frac{1}{6}$

10. **Error Analysis** Peter buys $\frac{1}{4}$ pound of ham. Peter says that if he makes 2 ham sandwiches, each will have $\frac{1}{2}$ pound of ham. Is Peter correct? Explain why or why not.

11. Theo cuts this board into 4 equal sections. What is the length of each section?

$\frac{1}{4}$ ft
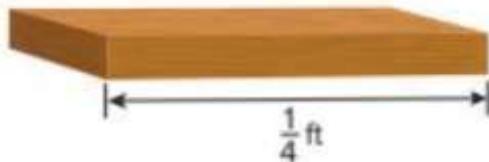
12. Sasha spends $\frac{1}{2}$ of each school day in math class, science class, and history class. If the time spent in each class is the same, what fraction of the school day does Sasha spend in math class?

10. Peter buys = $\frac{1}{4}$ pound meat

Total sandwitch to make = 2

Meat in each sandwitch = $\frac{1}{4} \div 2$

$$= \frac{1}{4} \times \frac{1}{2}$$

$$= \frac{1}{8} \text{ pound}$$

Peter is wrong because each sandwitch will have $\frac{1}{8}$ pound meat

$\frac{1}{4}$ pound Meat

→ Sandwitch

$\frac{1}{8}$ pound meat on each sandwitch
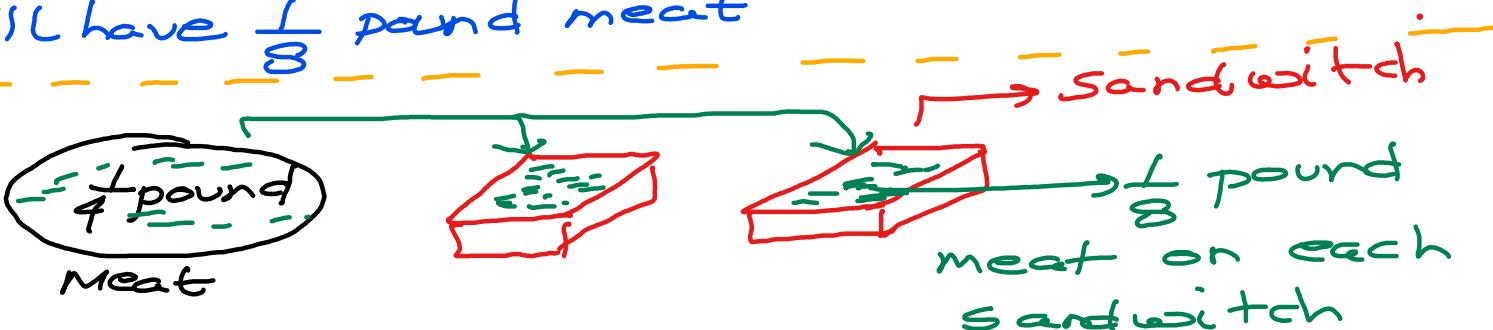
11. Total length = $\frac{1}{4}$ ft

Number of sections = 4

length of each section

$$= \frac{1}{4} \div 4$$

$$= \frac{1}{4} \times \frac{1}{4}$$

$$= \frac{1 \times 1}{4 \times 4}$$

$$= \frac{1}{16} \text{ ft}$$

$\frac{1}{4}$ ft

1 2 3 4

$\frac{1}{16}$ ft $\frac{1}{16}$ ft $\frac{1}{16}$ ft

section $\frac{1}{16}$ ft
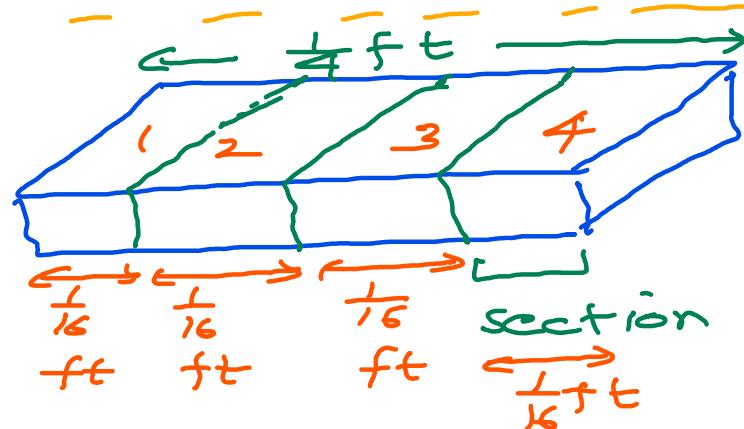
12. Day spent in school = $\frac{1}{2}$

Number of classes = 3

Sasha spent day in math class = $\frac{1}{2} \div 3$

$$= \frac{1}{2} \times \frac{1}{3}$$

$$= \frac{1 \times 1}{2 \times 3}$$

$$= \frac{1}{6} \text{ of day}$$

$\frac{1}{2}$
School
day

$\frac{1}{6}$
MATH
CLASS

$\frac{1}{6}$
SCIENCE
CLASS

$\frac{1}{6}$
HISTORY
CLASS
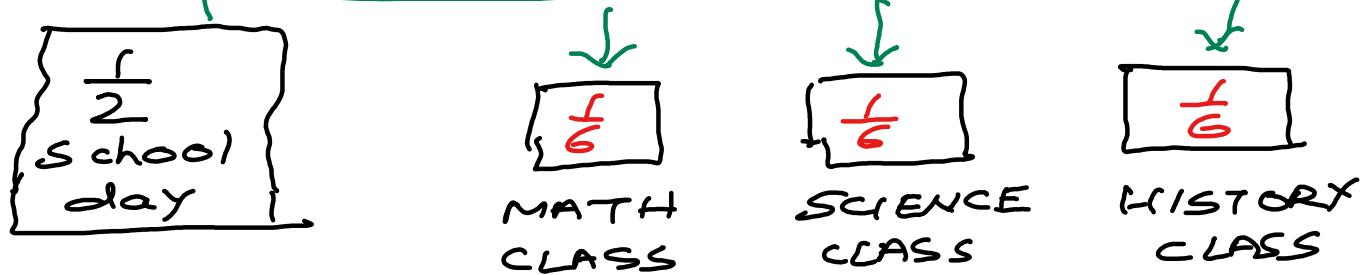
3	U12L3	Solve Multi-Step Problems Involving Measurement Units	(1-6)	Page :177

1. Adrian has a roll of wrapping paper that is 3 yards long. He uses $\frac{1}{3}$ of the wrapping paper to wrap a present. What is the length, in feet, of the paper left on the roll?

   A. 1 ft

   B. 3 ft

   C. 6 ft

2. Ruby's backpack has a mass of 4 kilograms. She removes a book that has a mass of 120 grams. What is the mass of Ruby's backpack after she removes the book?

   A. 2.8 kg

   B. 3.88 kg

   C. 38.8 kg

3. Amy's family has 2 gallons of milk in the refrigerator. At dinner, her family drinks $\frac{3}{8}$ of the milk in the refrigerator. How many cups of milk are left?

4. A track at the school is 400 meters long. Jackson walks around the track $3\frac{1}{2}$ times. How many kilometers did Jackson walk?

5. **STEM Connection** Finn knows that a cubic yard of concrete weighs about 4,050 pounds. A cement truck can hold 10 cubic yards of concrete. How many tons of concrete can the truck hold?

6. Robin is selling lemonade. She makes 3 liters of lemonade and sells glasses of 250 milliliters of lemonade each. In the first hou , she sells 6 glasses of lemonade. How many liters does she have left?

1.

WRAPPING PAPER = 3 YARDS

| 3 feet | | 6 feet |

$\frac{1}{3}$ of paper used ← → ← Not used →
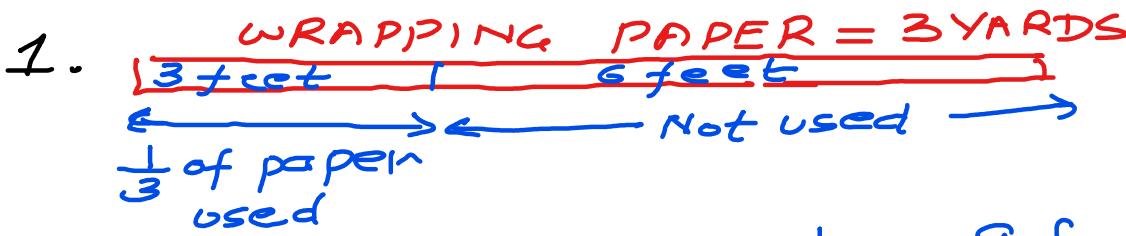
Total paper = 3 yards = 9 feet

$$1 \text{ yard} = 3 \text{ feet}$$
$$3 \text{ yards} = 3 \times 3$$
$$= 9 \text{ feet}$$

Paper used $= 9 \times \frac{1}{3}$

$$= \frac{9 \times 1}{3}$$

$$= \frac{9}{3}$$

$$= 3 \text{ feet}$$

Paper not used $= 9 - 3$
$$= 6 \text{ feet} \quad \boxed{C}$$

2.
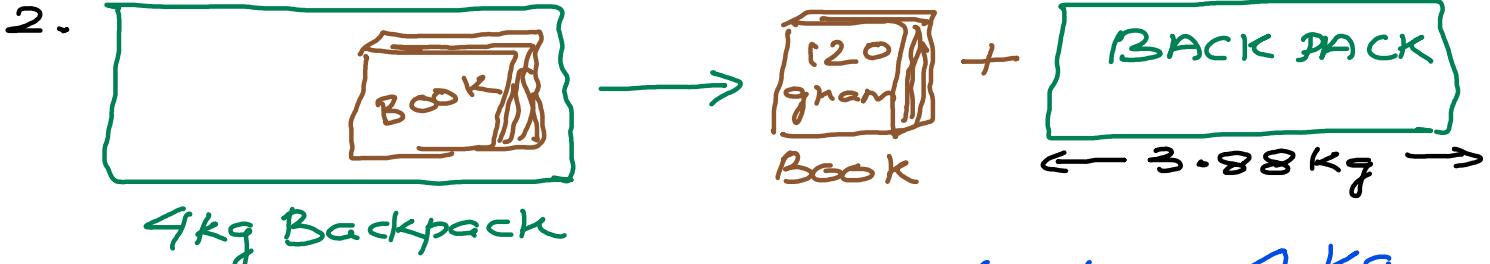
4kg Backpack

Mass of Backpack with book = 4 kg

Mass of book = 120 gram

$$1 \text{ gram} = \frac{1}{1000} \text{ kg}$$

$$120 \text{ gram} = \frac{1}{1000} \times 120$$

$$= \frac{1 \times 120}{1000}$$

$$= 0.12 \text{ kg}$$

Mass of back pack only $= 4 - 0.12$
$$= 3.88 \text{ Kg} \quad \boxed{B}$$

3.

2 gallons milk

12 cups | 20 cups

$\frac{3}{8}$ of milk used | milk left
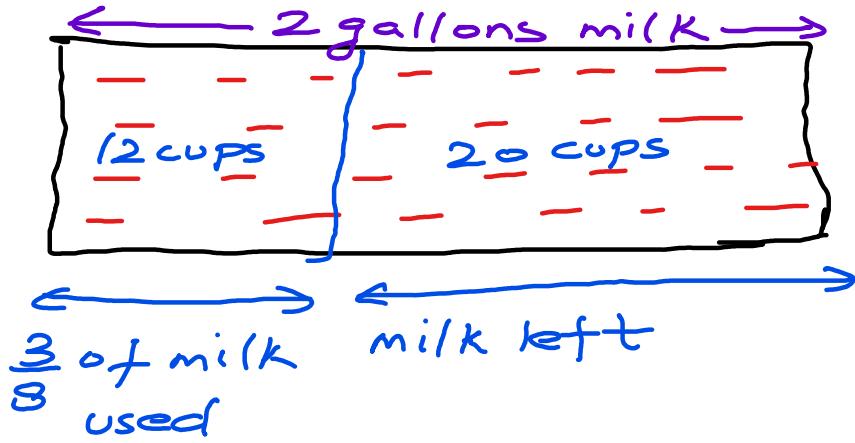
Total milk = 2 gallons = 32 cups

1 gallon = 16 cups
2 gallon = 2 × 16
= 32 cups

Milk used = $\frac{3 \times 32}{8}$ cups

$= \frac{3 \times 32}{8}$

$= \frac{96}{8}$

$= 12$ cups

cups of milk left = 32 − 12
= 20 cups

4. length of track = 400 m

In 1 round he covers = 400 m

In $3\frac{1}{2}$ times he covers

$= 400 \times 3\frac{1}{2}$ m

$= 400 \times \frac{7}{2}$

$= \frac{400 \times 7}{2}$

$= \frac{2800}{2}$

$= 1400$ m

1 round = 400 meter

$3\frac{1}{2}$
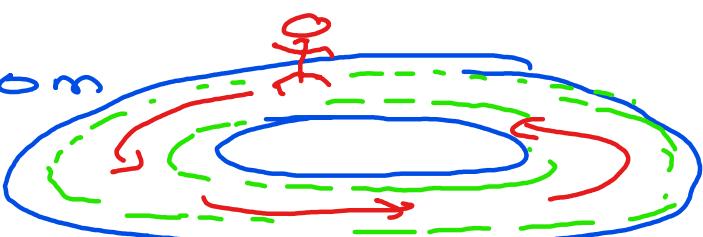
$\frac{(3 \times 2) + 1}{2}$

$\frac{6+1}{2} = \frac{7}{2}$

$$1m = \frac{1}{1000} \, km$$

$$1400 \, m = 1400 \times \frac{1}{1000} \, km$$

$$= \frac{1400 \times 1}{1000}$$

$$= \frac{1400}{1000}$$

$$= 1.4 \, km$$

5. 1 cubic yard $= 4050$ pounds

   10 cubic yard $= 4050 \times 10$ pounds

   $$= 40500 \text{ pounds}$$

   Now 2000 pound $= 1$ Ton

   So 40500 pound $= 40500 \div 2000$

   $$= 20\frac{1}{4} \text{ Ton} = 20.25 \text{ Ton}$$

   Truck can hold $= 20.25$ Ton

6. lemonade in each glass
   $$= 250 \, mL$$

   lemonade in 6 glasses
   $$= 6 \times 250$$
   $$= 1500 \, ml$$

   $$1 \, ml = \frac{1}{1000} \text{ litre}$$

   $$1500 \, ml = 1500 \times \frac{1}{1000}$$

   $$= \frac{1500 \times 1}{1000}$$

   $$= \frac{1500}{1000}$$

   $$= 1.5 \text{ litre}$$
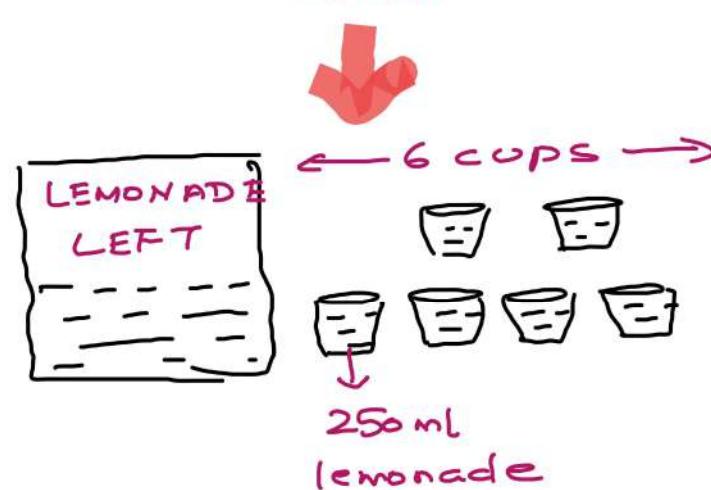
   Total lemonade $= 3$ litre

   lemonade left $= 3 - 1.5$
   $$= 1.5 \text{ litre}$$

3 LITRE

LEMONIADE

←—6 glasses—→

250ml

LEMONADE LEFT

←—6 cups—→

250 ml lemonade

7. Brian is walking to his friend's house that is 2.6 kilometers away. He stops when he is $\frac{7}{8}$ of the way there. How many meters does he still have to walk?

8. Nell is aiming to drink the amount of water shown per day. By 3 p.m., she is $\frac{3}{4}$ of the way to her goal. How many more fl id ounces does she need to drink to reach her goal?

8 cups per day

9. Tyler wants to send his cousin 5 books that are each 1,500 grams. He has a box that can hold up to 6 kilograms. Will Tyler be able to use the box he has? Explain.

10. Gina is growing a houseplant. When she measures it at the beginning of the month, it is 3 feet tall. When she measures it at the end of the month, it is $1\frac{1}{4}$ the size it was at the beginning of the month. How many inches did the houseplant grow?

7.
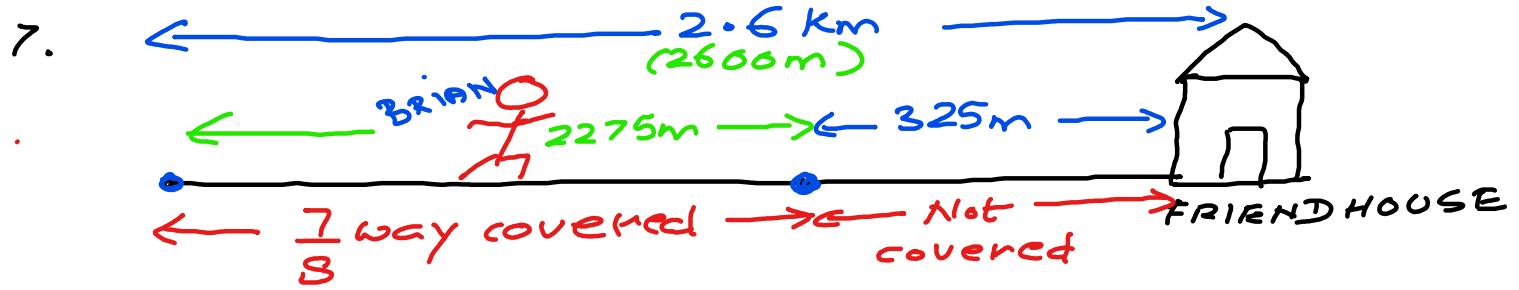
Total distance = 2.6 km

1 km = 1000 m

2.6 km = 2.6 × 1000

= 2600 m

Brian covered = $\frac{7}{8}$ × 2600 m

= $\frac{18200}{8}$

= 2275 m

He has still to walk = 2600 − 2275 m

= 325 m

8.

1 cup = 8 ounces

8 cups = 8 × 8

= 64 ounces

Nell has drunk ounces = $\frac{3}{4}$ × 64

= $\frac{192}{4}$

= 48 ounces

She needs to drink = 64 − 48 = 16 ounces

9.

Mass of 1 book = 1500 grams

Mass of 5 books = 5 × 1500

= 7500 grams

1 gram = $\frac{1}{1000}$ kg

7500 gram = 7500 × $\frac{1}{1000}$ kg

= $\frac{7500}{1000}$

= 7.5 kg

$7.5 \text{ kg} > 6 \text{ kg}$

So Tyler cannot use box for books

10. House plant in beginning $= 3 \text{ feet} = 36 \text{ inches}$

1 feet $= 12$ inches

3 feet $= 12 \times 3$

$\quad\quad = 36$ inches
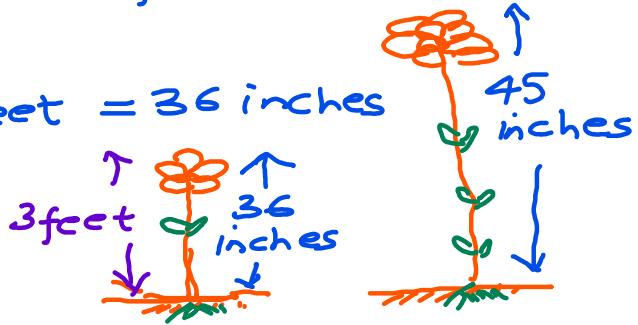
House plant after 1 month $= 36 \times 1\frac{1}{4}$

$$= 36 \times \frac{5}{4}$$

$$= \frac{36 \times 5}{4}$$

$$= \frac{180}{4}$$

$$= 45 \text{ inches}$$

The plant grew $= 45 - 36 = 9$ inches

**Plot and label the point for each place shown in the table.**

Place	Ordered Pair
Playground	(4, 6)
Post Office	(1, 2)
Fire Station	(5, 3)
Jill's House	(2, 4)

1. Playground ●

2. Post Offi ●

3. Fire Station ●

4. Jill's House ●

(4,6)
(2,4)
(5,3)
(1,2)
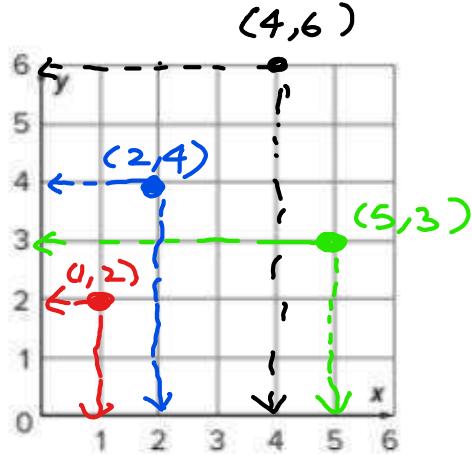
Plot and label the point for each ordered pair.

5. M(3, 2) ●

6. N(4, 3) ●

7. P(5, 4) ●

8. Q(1, 5) ●

(1,5)
(5,4)
(4,3)
(3,2)
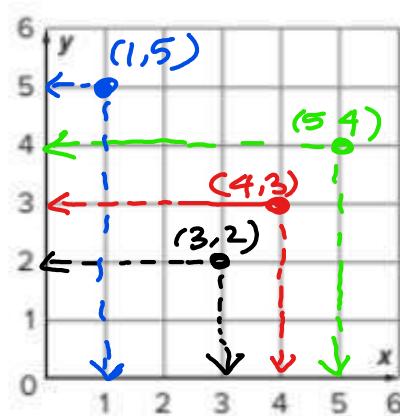
Plot and label the point for each ordered pair.

9. R(0, 0)   ●

10. S(4, 0)   ●

11. T(0, 6)   ●

12. U(3, 5)   ●

(0,6)

(3,5)

(0,0)

(4,0)
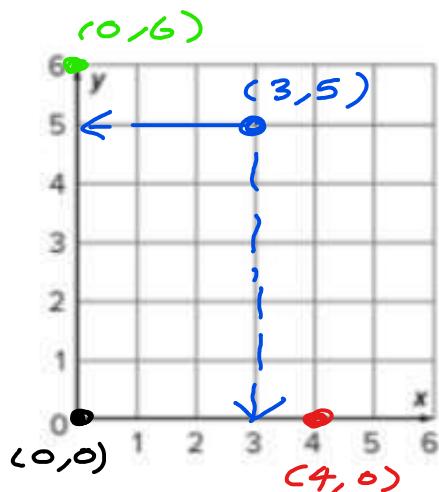
13. Extend Your Thinking Plot the points (1, 3), (1, 6), (5, 6), and (5, 3). Draw a line to connect the points in the order in which you plotted them. What is the length and width of the shape?

length of shape = 5 - 1 = 4
width of shape = 6 - 3 = 3

(1,6)   (5,6)

6 - 3 = 3

(1,3)   (5,3)

← 5 - 1 = 4 →
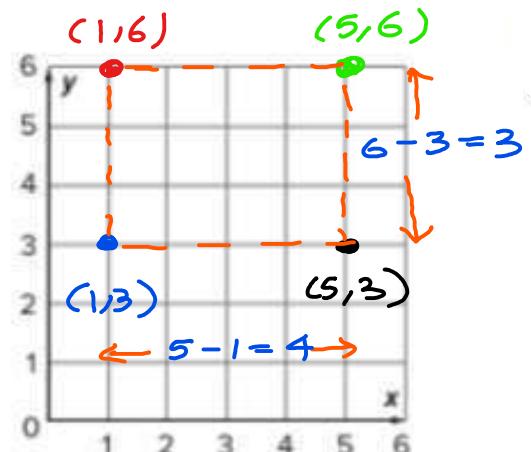
Learn

Alex and Jenna participate in a sit-up challenge. They both do
0 sit-ups on the first day. Each day after the first day, Alex adds
2 sit-ups to the number she did the previous day and Jenna adds
6 sit-ups to the number she did the previous day.

How many sit-ups will Jenna do on the day that Alex does 20 sit-ups?

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
ALEX	0	2	4	6	8
	+2	+2	+2	+2	
JENNA	0	6	12	18	24
	+6	+6	+6	+6	

×3
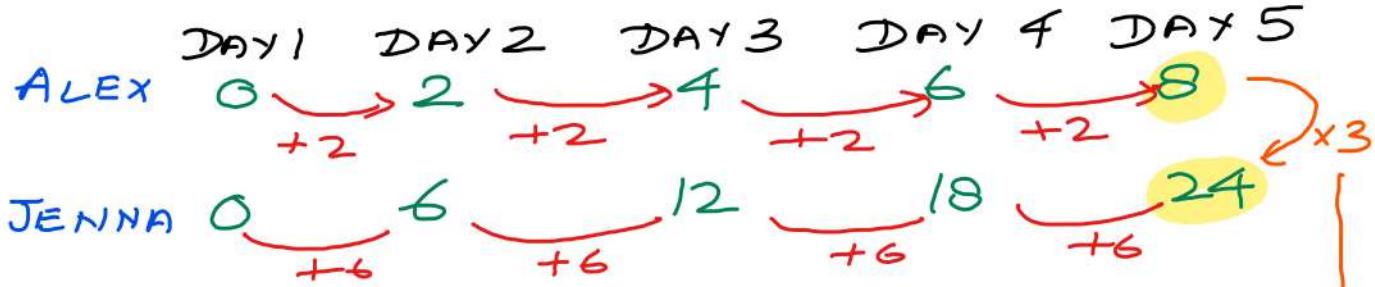
Jenna sit ups = 3× Alex sit ups

Alex does 20 sit ups

Jenna sit ups = 3×20
            = 60 sit ups

Use the information given for Exercises 1–8.

Quentin and Tyler are running laps on the school track. Each time they complete a lap, they do jumping jacks.

They both do 0 jumping jacks after the first la .

Each lap, Quentin adds 1 jumping jack to the number of jumping jacks he did after the lap before.

Each lap, Tyler adds 4 jumping jacks to the number of jumping jacks he did after the lap before.

1. What is the rule for Quentin's numerical pattern?

2. What is the rule for Tyler's numerical pattern?

3. Write the first 5 terms of Quenti 's numerical pattern.

4. Write the first 5 terms of yler's numerical pattern.

5. When Quentin does 4 jumping jacks after a lap, how many jumping jacks will Tyler do after that same lap?

6. What is a relationship between corresponding terms in the two numerical patterns?

7. How many jumping jacks will Tyler do after the lap when Quentin does 8 jumping jacks?

8. How many jumping jacks will Quentin do after the lap when Tyler does 40 jumping jacks?

| | LAP 1 | LAP 2 | LAP 3 | LAP 4 | LAP 5 |

QUENTIN $0 \xrightarrow{+1} 1 \xrightarrow{+1} 2 \xrightarrow{+1} 3 \xrightarrow{+1} 4$ $\times 4$

TYLER $0 \xrightarrow{+4} 4 \xrightarrow{+4} 8 \xrightarrow{+4} 12 \xrightarrow{+4} 16$

TYLER Jumping Jacks = 4 × Quentin jumping jacks
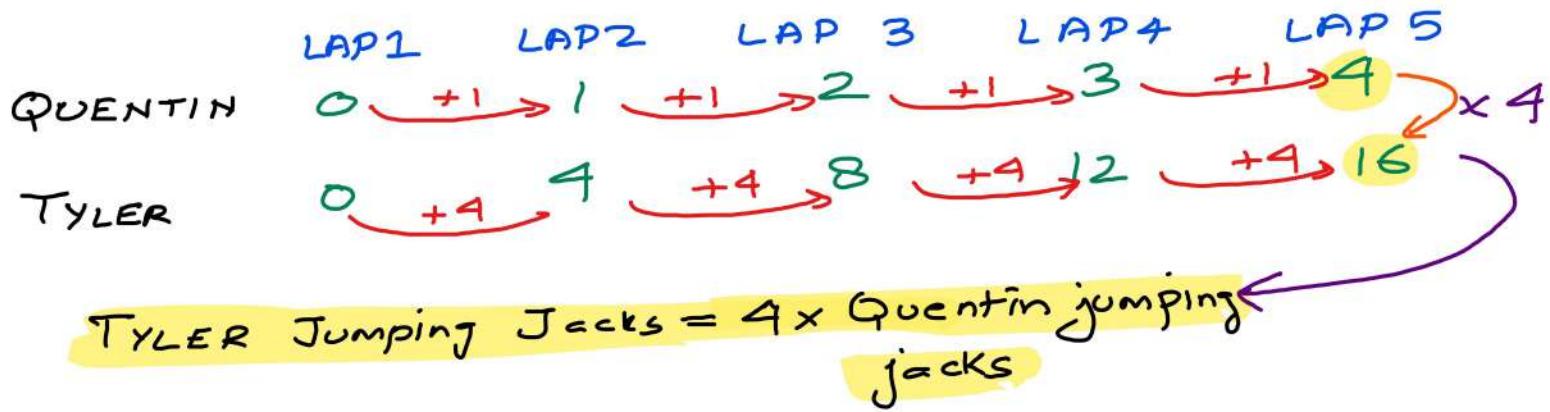
1. Quentin jumping jack increases by +1 for each lap.

2. Tyler jumping jack increases by +4 for each lap

3. $0, 1, 2, 3, 4$

4. $0, 4, 8, 12, 16$

5. Tyler does 16 jumping jacks after same lap

6. Tyler jumping jacks = 4 × Quentin jumping jacks

7. Quentin jumping jacks = 8
   Tyler jumping jacks = 4 × 8
   $\qquad = 32$

8. Tyler jumping jacks = 40
   So Quentin jumping jacks = 10
   Because
   Tyler jumping jacks = 4 × Quentin jumping jacks
   $\qquad = 4 \times 10$
   Tyler jumping jacks = 40

Use Numerical Patterns A and B for Exercises 9–12.

Numerical Pattern A: 0, 2, 4, 6, 8, 10, 12 +2 +2 +2 +2 +2 +2 ×3

Numerical Pattern B: 0, 6, 12, 18, 24, 30, 36 +6 +6 +6 +6 +6 +6

9. What is the rule for Pattern A?

The value of A increases
by +2 each time

10. What is the rule for Pattern B?

The value of B increases by
+6 each time

11. What is a relationship between the corresponding terms in the two numerical patterns?

Pattern B = 3 × Pattern A

12. When the number in Pattern A is 28, what will be the number in Pattern B?

Pattern A = 28
Pattern B = 3 × Pattern A

= 3 × 28
Pattern B = 84

Part 2	Type of Questions	موضوع/MCQ	الدرجات لكل سؤال	4 درجات
6	U11L1 Relate Fractions to Division	(2-7)		Page :131

Complete the equation.

2. $\underline{5} \div \underline{9} = \frac{5}{9}$

3. $\underline{13} \div \underline{4} = \frac{13}{4}$

4. $3 \div 8 = \dfrac{3}{8}$

5. $7 \div 9 = \dfrac{7}{9}$

6. $\dfrac{1}{3} \times 7 = 7 \div 3$

7. $\frac{1}{4} \times 5 = 5 \div \underline{4}$

10. Aki pours the same amount of aquarium pebbles from this bag into each of 3 aquariums. What is the weight of the pebbles in each aquarium?

weight of pebbles in
each aquarium $= 7 \div 3$
$= \frac{7}{3} lb$

7 lb

$\frac{7}{3}$ $\frac{7}{3}$ $\frac{7}{3}$

AQUARIUM

11. What is the unknown divisor? Explain how you know.

$2 \div \underline{3} = \frac{2}{3}$

$2 \div 3$
$2 \times \frac{1}{3}$
$\frac{2 \times 1}{3} = \frac{2}{3}$

12. Error Analysis Spencer divides 6 pounds of food from the food drive into 3 boxes. He says each box has $\frac{3}{6}$ pounds of food. Is he right? How do you know?

6 pounds

2 pound   2 pound   2 pound
BOX   BOX   BOX
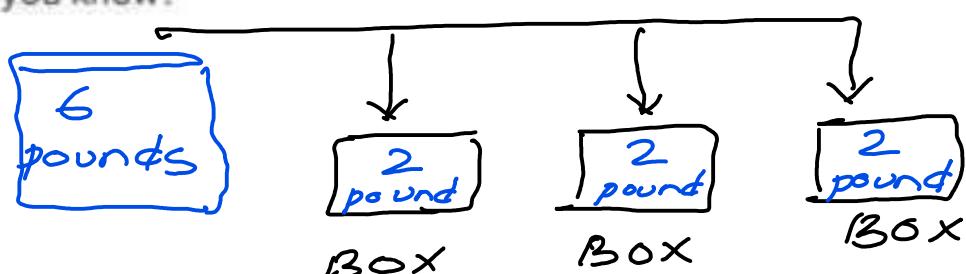
Each box will have $= 6 \div 3$
$= 2$ pound food

He is not right because each box has 2 pound food

7	U11L3	Represent Division of Whole Numbers by Unit Fractions	(1-8)		Page :139
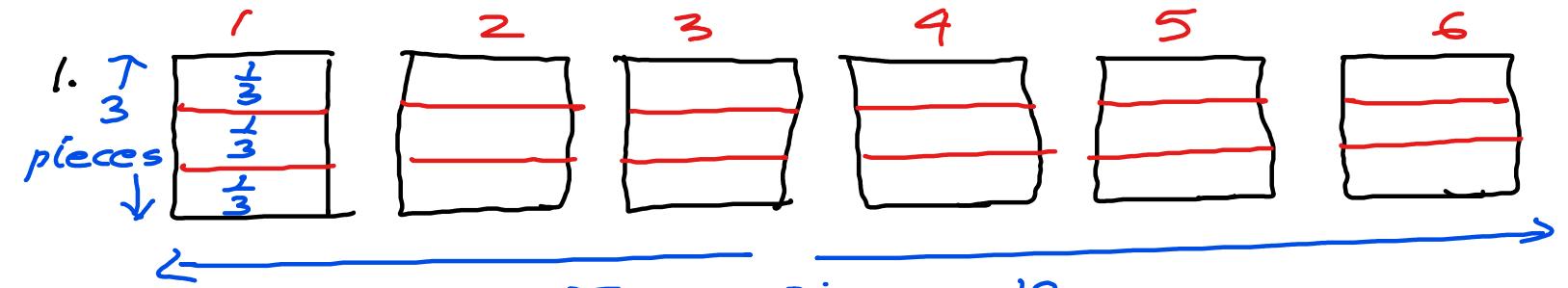
What is the quotient? Use a representation to solve.

1. $6 \div \frac{1}{3} =$ _____

2. $9 \div \frac{1}{4} =$ _____

3. $7 \div \frac{1}{8} =$ _____

4. $5 \div \frac{1}{5} =$ _____

5. $4 \div \frac{1}{2} =$ _____

6. $2 \div \frac{1}{9} =$ _____

7. $4 \div \frac{1}{6} =$ _____

8. $3 \div \frac{1}{10} =$ _____

1.

3 pieces

$\frac{1}{3}$

$\frac{1}{3}$

$\frac{1}{3}$

1 2 3 4 5 6

TOTAL PIECES = 18

$$6 \div \frac{1}{3} = 18$$

2.

$\frac{1}{4}$ $\frac{1}{4}$

$\frac{1}{4}$ $\frac{1}{4}$

4 pieces

1 2 3 4 5 6 7 9 8

TOTAL PARTS = 36

$$9 \div \frac{1}{4} = 36$$

3.

8 pieces

$\frac{1}{8}$
$\frac{1}{8}$
$\frac{1}{8}$
$\frac{1}{8}$
$\frac{1}{8}$
$\frac{1}{8}$
$\frac{1}{8}$
$\frac{1}{8}$

1 2 3 4

7 6 5

TOTAL PIECES = 56

$$7 \div \frac{1}{8} = 56$$

4. 5 pieces

1 — 1/5, 1/5, 1/5, 1/5, 1/5
2
3
4
5

TOTAL = 25 pieces

$$5 \div \frac{1}{5} = 25$$

5. 2 part

1 — 1/2, 1/2
2
3
4

TOTAL PIECES = 8

$$4 \div \frac{1}{2} = 8$$

6. 9 pieces

1 — 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9
2
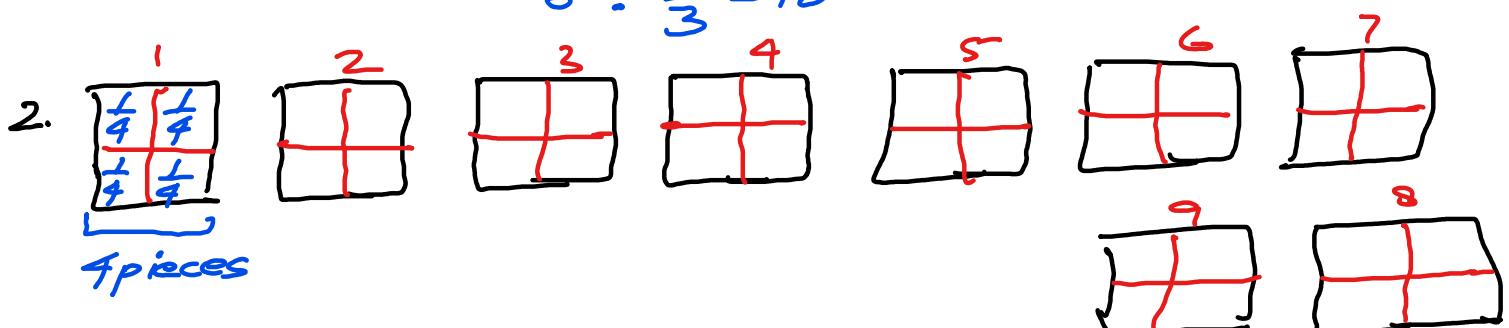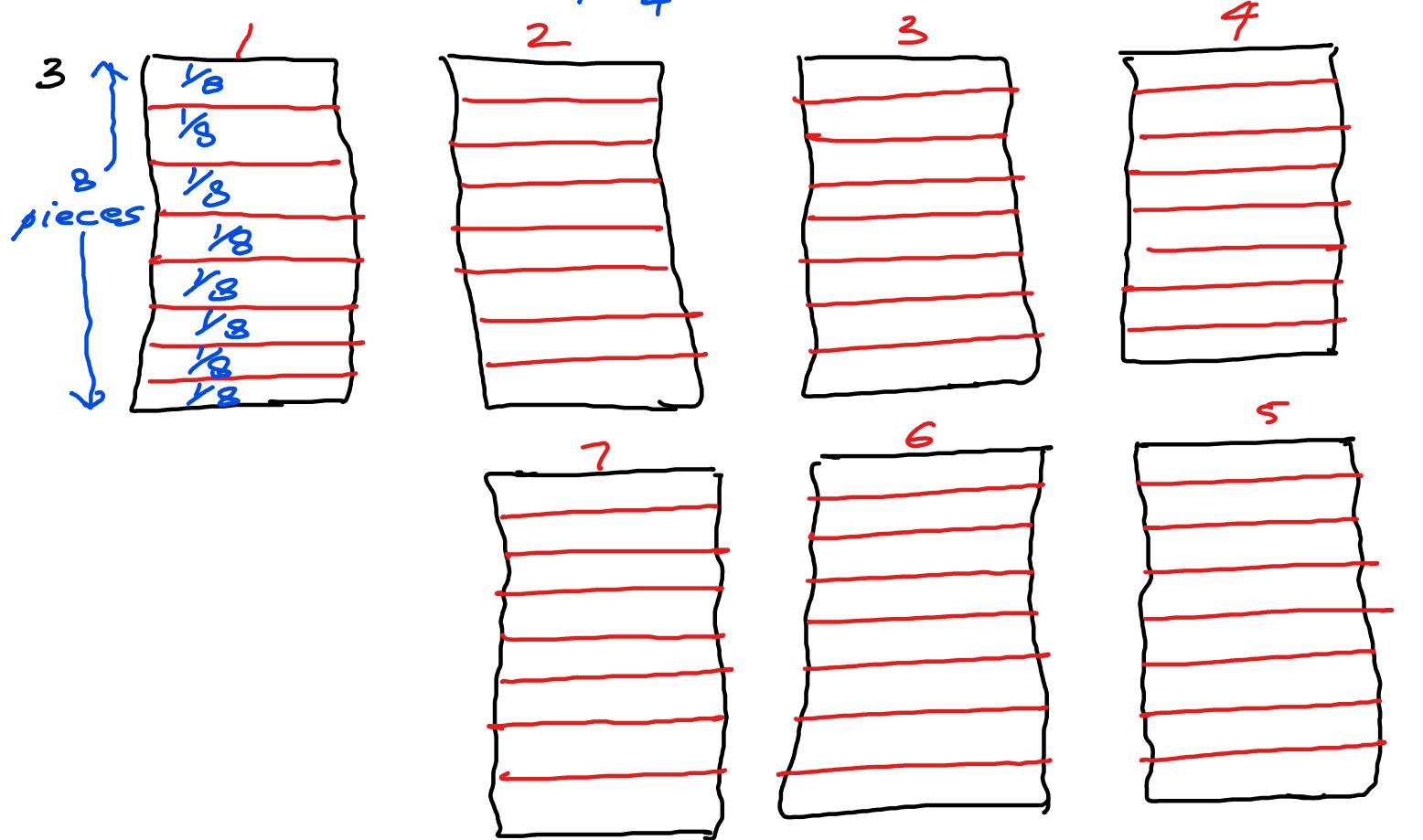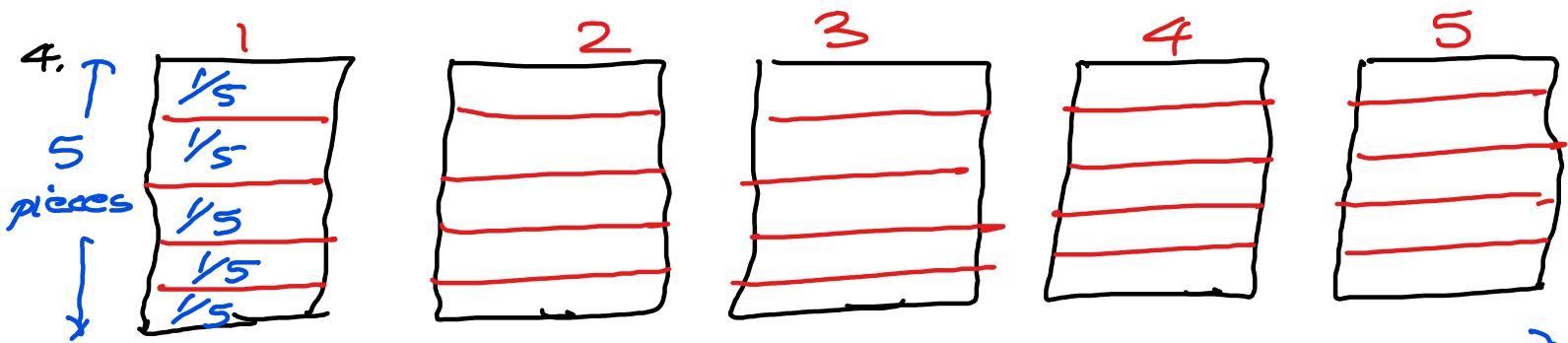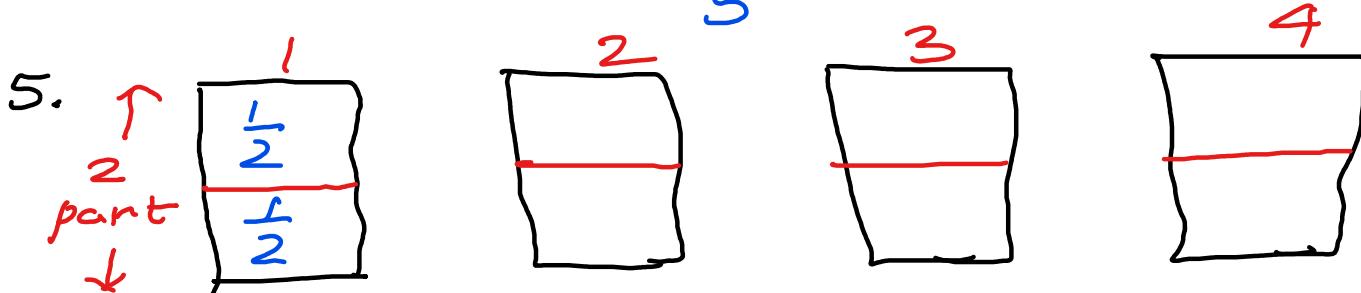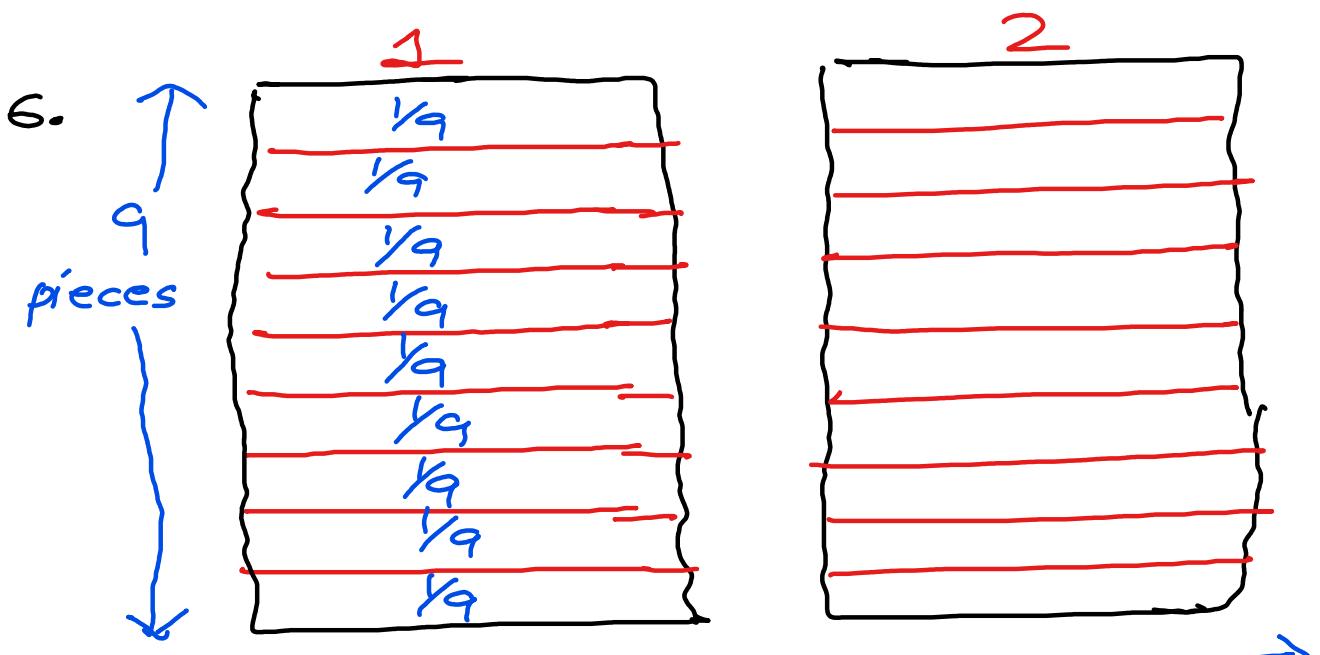
TOTAL PIECES = 18

$$2 \div \frac{1}{9} = 18$$

7.

6 pieces

1 $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$

2

3

4

TOTAL PIECES = 24

$$4 \div \frac{1}{6} = 24$$

8.

10 pieces

1 $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$

2

3
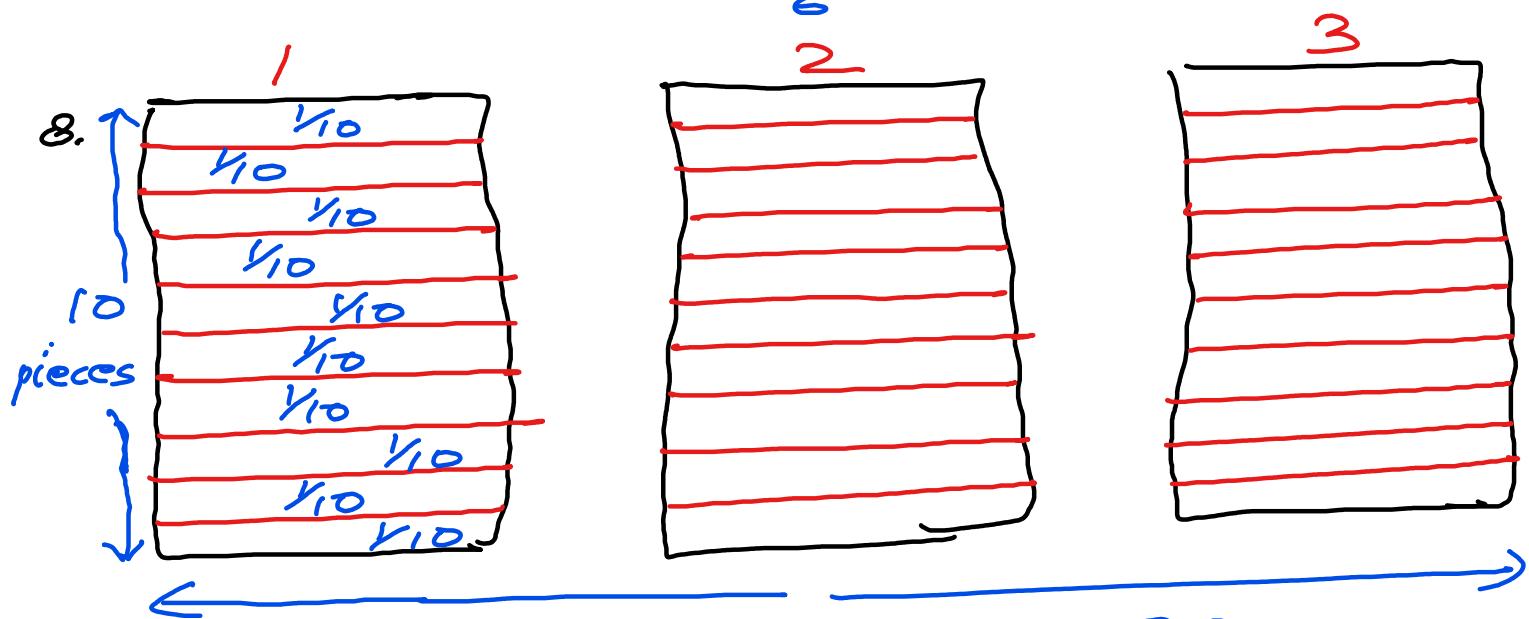
TOTAL PIECES = 30

$$3 \div \frac{1}{10} = 30$$

7	U11L3	Represent Division of Whole Numbers by Unit Fractions	12		Page :160

12. Which equation can match the model? (Lesson 11-3)
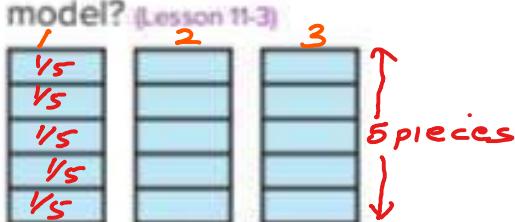
A. $5 \div 3 = n$

B. $3 \div \frac{1}{5} = n$

C. $5 \div \frac{1}{3} = n$

D. $3 \div 5 = n$

8	U11L4	Divide Whole Numbers by Unit Fractions	(1-9)		Page :143

What is the quotient?

1. $3 \div \frac{1}{5} = 3 \times 5$
   $= 15$

2. $6 \div \frac{1}{3} = 6 \times 3$
   $= 18$

3. $4 \div \frac{1}{4} = 4 \times 4$
   $= 16$

4. $7 \div \frac{1}{2} = 7 \times 2$
   $= 14$

5. $12 \div \frac{1}{3} = 12 \times 3$
   $= 36$

6. $9 \div \frac{1}{5} = 9 \times 5$
   $= 45$

7. $6 \div \frac{1}{6} = 6 \times 6$
   $= 36$

8. $10 \div \frac{1}{10} = 10 \times 10$
   $= 100$

9. $8 \div \frac{1}{7} = 8 \times 7$
   $= 56$

15. Which equation can be used to check the quotient of the division equation shown? (Lesson 11-4)

$$16 \div \frac{1}{4} = n$$

A. $4 \times \frac{1}{16} = \frac{1}{4}$

B. $4 \times 4 = 16$

C. $16 \times \frac{1}{4} = 4$

D. $64 \times \frac{1}{4} = 16$ ⟵ (circled)

$16 \div \frac{1}{4} = n$

$16 \times 4 = n$

$64 = n$

and $64 = 16 \times 4$

$64 \times \frac{1}{4} = 16 \times 4 \times \frac{1}{4}$

$64 \times \frac{1}{4} = \frac{16 \times 4 \times 1}{4}$

$64 \times \frac{1}{4} = 16$

16. Which expression has a whole-number quotient? (Lesson 11-4)

A. $9 \div \frac{1}{8}$ (circled)

B. $9 \div 8$

C. $8 \div 9$

D. $\frac{1}{9} \div 8$

$9 \div \frac{1}{8} = 9 \times 8 = 72$ whole number

17. How many unit fractions of $\frac{1}{10}$ are in 100? (Lesson 11-4)

$$100 \div \frac{1}{10}$$

$$100 \times 10$$

$$= 1000 \text{ unit fractions}$$

1. Sonya is making muffins. The recipe use $\frac{1}{2}$ cup of flour and makes 12 mini muffins. How many cups of flour should Son use to make 6 muffi ?

   12 muffins use $= \frac{1}{2}$ cup flour

   6 muffins use $= \frac{1}{2} \div 2 = \frac{1}{2} \times \frac{1}{2}$

   $= \frac{1 \times 1}{2 \times 2}$

   $= \frac{1}{4}$ cup

   A. $\frac{1}{24}$ cup   **B.** $\frac{1}{4}$ cup   C. $\frac{1}{6}$ cup   D. $\frac{1}{12}$ cup

2. **STEM Connection** Saffron has 4 cups of chocolate chips. She has a muffin recipe that calls for $\frac{1}{8}$ cup of chocolate chips per muffin. How many muffins ca Saffron ma e?

   Total cups = 4

   for each muffin $= \frac{1}{8}$ cup

   Muffins made $= 4 \div \frac{1}{8} = 4 \times 8 = 32$ muffins

3. Mr. Kline is making vegetable soup. His recipe makes 12 servings and uses $\frac{1}{3}$ pound of peas. How many pounds of peas does he need to make 6 servings?

   A. $\frac{1}{36}$ pound   **B.** $\frac{1}{6}$ pound   C. $\frac{1}{4}$ pound   D. 4 pounds

   In 12 servings peas used $= \frac{1}{3}$ pound

   In 6 servings peas used $= \frac{1}{3} \div 2$

   $= \frac{1}{3} \times \frac{1}{2}$

   $= \frac{1 \times 1}{3 \times 2}$

   $= \frac{1}{6}$ pound

4. Ms. Jorge is dividing 4 pounds of gardening soil equally for 5 potted plants. How many pounds of soil will be in each pot?

Each pot will have soil $= 4 \div 5 = 4 \times \frac{1}{5} = \frac{4 \times 1}{5} = \frac{4}{5}$ pounds

5. A zoo has 5 pounds of fruit and 3 pounds of lettuce to divide equally among 3 gorillas. How many total pounds of fruit and lettuce will each gorilla get?

TOTAL FRUITS $= 5 + 3 = 8$ pounds
To be divided in 3 gorillas

So each gorilla gets $= 8 \div 3 = 8 \times \frac{1}{3} = \frac{8 \times 1}{3} = \frac{8}{3}$ pound
fruit

6. A relay race is $\frac{1}{2}$ mile long. How far does each person run if there are 3 members on the team?

Each person runs $= \frac{1}{2} \div 3 = \frac{1}{2} \times \frac{1}{3} = \frac{1 \times 1}{2 \times 3} = \frac{1}{6}$ miles

7. Shaun is making 3 bags of trail mix. He has $\frac{1}{5}$ pound of dried cranberries to divide equally among the bags. How many pounds of dried cranberries will be in each bag?

TOTAL berries $= \frac{1}{5}$
To be divided in bags $= 3$

So each bag will have $= \frac{1}{5} \div 3$ pound

A. $\frac{1}{15}$ pound B. $\frac{3}{5}$ pound C. $\frac{1}{3}$ pound D. 15 pounds

$= \frac{1}{5} \div 3 = \frac{1}{5} \times \frac{1}{3} = \frac{1 \times 1}{5 \times 3} = \frac{1}{15}$ pound

8. Lucy brings 4 cakes to the bake sale. Each piece of cake is $\frac{1}{6}$ of the whole. How many pieces of cake does she have? Write and solve the equation.

1 piece of cake $= \frac{1}{6}$
Number of cakes to divide $= 4$
Number of pieces $= 4 \div \frac{1}{6} = 4 \times 6 = 24$ pieces

CAKE

←TOTAL PIECES→
$= 24$
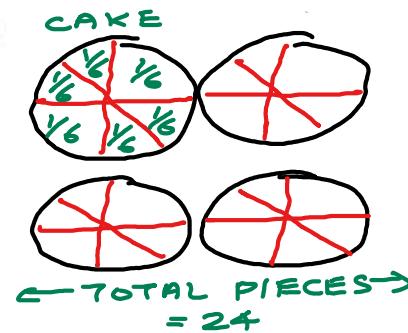
9. Mike made 60 cookies. He divided the cookies equally among his 8 friends and kept the rest for himself. How many cookies did Mike give his friends, and how many did he keep?

60 cookies divided in 8 friends $= 60 \div 8$
Mike gave each friend $= 7$ cookies
Mike gave all his friends $= 56$ cookies
He Kept $= 60 - 56 = 4$ cookies

$$\begin{array}{r} 7 \\ 8\overline{)60} \\ -56 \\ \hline 4 \end{array}$$
↓
Remainder

10. Ingrid buys this piece of cheese. She uses equal amounts of it to make 3 sandwiches. How much cheese is on each sandwich?

TOTAL Cheese $= \frac{1}{4}$ lb
cheese is divided in 3 sandwiches
So each sandwich will have cheese
$= \frac{1}{4} \div 3$
$= \frac{1}{4} \times \frac{1}{3} = \frac{1 \times 1}{4 \times 3} = \frac{1}{12}$ lb

$\frac{1}{4}$ lb

> 1 mile = 5280 FEET

- 1 YARD = 3 FEET
- 24 HOURS = 1 DAY
- 1 MINUTE (min) = 60 SECONDS

- 1 pt = 2 cup
- 1 Gallon (gal) = 4 Quarts
- 1 Quarts = 4 cups
- 1 Gallon (gal) = 8 pt
- 1 Pound (lb) = 16 ounces (oz)
- 1 Ton = 2000 Pound (lb)
- 12 INCHES (in) = 1 feet (ft)
- 1 Yard (yd) = 36 inches (in)

> 1 CUP = 8 OUNCES

Which operation will you use for the conversion?
Explain your reasoning.

1. cups to fluid ounce

MULTIPLICATION
   1 CUP = 8 ounces
cup is bigger unit

2. hours to days

DIVISION
1 hour = $\frac{1}{24}$ days
hour is smaller

Complete the conversion.

3. 36 in. = ___3___ ft
   12 in = 1 ft

4. 2 T = __4000__ lb
   1 T = 2000 lb

5. 16 pt = ___2___ gal
   1 gal = 8 pt

6. 3 yr = __36__ mo
   1 yr = 12 months
   3 yr = 3×12 = 36 mo

7. 48 oz = ___3___ lb
   1 lb = 16 oz
   3 lb = 3 × 16 = 48 oz

8. 4 hr = __240__ min
   1 hr = 60 min
   4 hr = 4×60 = 240 min

9. A basketball court is 84 feet long. How does 84 feet compare to 30 yards? Explain how you know.

1 yard = 3 feet
30 × 1 yard = 30 × 3 feet
30 yard = 90 feet
So   30 yard > 84 feet

10. James needs this much ribbon for an art project. How many inches of ribbon does he need?

$\frac{2}{3}$ ft

1 ft = 12 inches
$\frac{2}{3}$ ft = $\frac{2}{3}$×12 inches = $\frac{24}{3}$ = 8 inches

11. During a reading contest, Mike read for a total of 120 hours. How many days is equal to 120 hours?
   24 hours = 1 day
   5 × 24 hours = 5 × 1 day
   120 hours = 5 days

12. Amy's dog weighs 272 ounces. How many pounds does her dog weigh?
   16 ounces = 1 pound
   272 ounces ÷ 16
   = 17 pounds

13. Lauren goes for a walk that is $\frac{7}{8}$ mile long. How many feet did she walk?

1 mile = 5280 feet

$\frac{7}{8}$ mile = $\frac{7}{8} \times 5280 = \frac{7 \times 5280}{8} = \frac{36960}{8} = 4620$ feet

14. **STEM Connection** Finn needs to cut a piece of wood that is 144 inches long. He thinks it would be easier to measure the piece of wood in yards. What is the length in yards? Explain your answer.

36 inches = 1 yard

144 inches = 144 ÷ 36 yards
= 4 yards

15. **Extend Your Thinking** A rope is 100 inches long. What is the length in feet and inches? Explain your reasoning.

12 inches = 1 feet

100 inches = (96 + 4) inches = 8 feet + 4 inches
[96 inches = 96 ÷ 12 = 8 feet]

9. Andrew's height is given in centimeters. What is Andrew's height in meters?

1 cm = $\frac{1}{100}$ meters

142 cm

$142 \text{ cm} = 142 \times \frac{1}{100} = \frac{142 \times 1}{100}$
$= \frac{142}{100} = 1.42 \text{ m}$

10. **Error Analysis** A cooler contains 50 liters of water. Emily calculated to determine how many milliliters of water are in the cooler. Check Emily's work. Did she make any mistakes? If so, how could she correct her work?

1 litre = 1000 mL
So litre = 50 × 1000 millilitre
= 50,000 ml

$50 \times 100 = 5,000$

There are 5,000 milliliters of water.

Yes she made mistake. She must multiply by 1000

11. The maximum mass an elevator can hold is 450 kilograms. What is the maximum mass in grams?

1 kg = 1000 grams

450 kg = 450 × 1000
= 4,50,000 grams

12. How many liters of water are in the pool?

Capacity: 375 kL

1 kL = 1000 litres

375 kL = 375 × 1000
= 3,75,000 litres

13. Ryan has a sheet of paper that is 0.75 meter long. What is the length in centimeters?

1 meter = 100 centimeter

0.75 meter = 0.75 × 100

= 75 centimeter

14. Ada's backpack has a mass of 9,080 grams. What is the mass in kilograms?

$1 \text{ gram} = \frac{1}{1000} \text{ kilogram}$

$9080 \text{ gram} = \frac{9080}{1000} = 9.08 \text{ kilogram}$

15. **Extend Your Thinking** Explain how you can determine how many millimeters are in a kilometer.

Kilo meter | Hecta meter | Deca meter | meter | Deci me ter | Centi meter | Milli meter
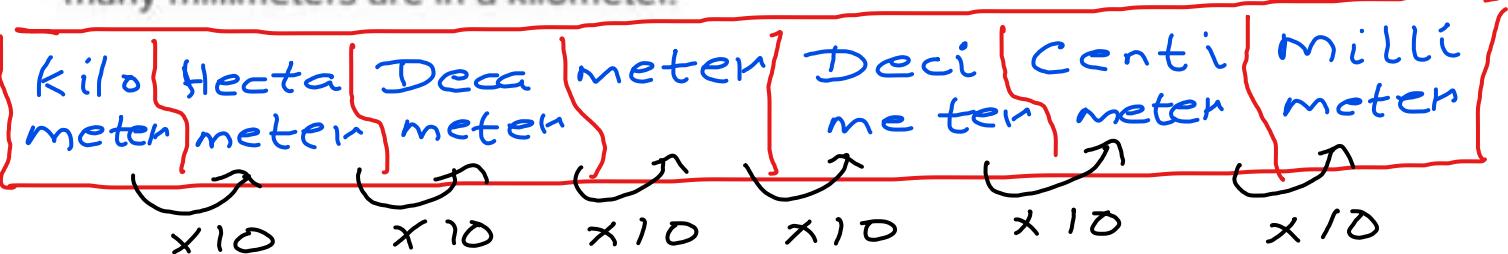
× 10   × 10   × 10   × 10   × 10   × 10

1 Kilometer = 10 × 10 × 10 × 10 × 10 × 10 millimeters

= 1,000,000 millimeters

Use the coordinate plane to answer exercises 1–7.

1. What ordered pair describes point W?

   $x = 4$, $Y = 4$

   $(4, 4)$
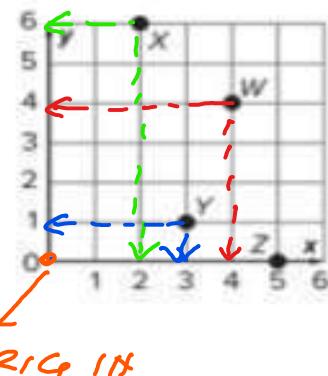
ORIGIN

2. What ordered pair describes point X?

   $X = 2$, $Y = 6$

   $(2, 6)$

3. What ordered pair describes point Y?

   $x = 3$, $Y = 1$

   $(3, 1)$

4. What ordered pair describes point Z?

   $x = 5$, $Y = 0$

   $(5, 0)$

5. What ordered pair describes the origin?

   $x = 0$, $Y = 0$

   $(0, 0)$

6. How did you find the x-coordinate for each ordered pair?

   By counting values in x direction along x axis

7. How did you find the y-coordinate for each ordered pair?

   By counting values in Y direction along Y axis

12	U13L1	Understand the Coordinate Plane	(8-10)	Page :200

Charlie gave his friends these locations for a scavenger hunt.
What are the ordered pairs that describe the locations on the
coordinate plane?

8. Point A $x=3, Y=3$
              (3,3)

9. Point B $x=5, Y=2$
              (5,2)

10. Point C $x=2, Y=1$
              (2, 1)
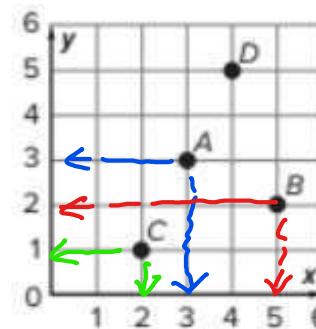
13	U13L3	Represent Problems on a Coordinate Plane	Learn	Page :206

Learn

Aliyah is at the 30th floor of a building.
While waiting for the elevator, she collected
the data shown in the table.

**How many minutes will it take the elevator
to reach Aliyah's floor?**

Time (min)		Floor
0		0
1	x5	5
2	x5	10
3	x5	15
4	x5	20

From table
   Floor = 5 x Time
For floor = 30
Time must be = 6 min
because Floor = 5x6
                = 30
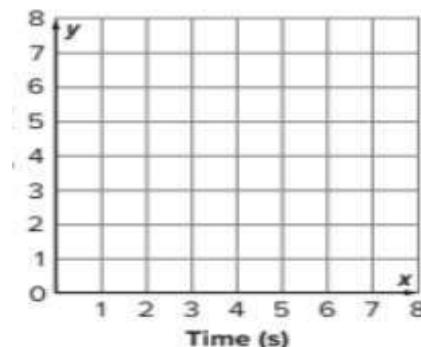
13	U13L3	Represent Problems on a Coordinate Plane	(1-6)	Page :207

1. The table shows the time it took for a
   fifth-grade student to go down the slid
   at a park and their height from the
   ground while going down the slide.
   Write the time and corresponding
   heights as ordered pairs.

   (x,y)

   (0,7) (1,5) (2,4) (3,3)
       (4,2) (5,1)

Time (seconds)	Height (feet)
0	7
1	5
2	4
3	3
4	2
5	1
X	Y

2. Plot and connect the points on a coordinate plane.

(0,7)
(1,5)
(2,4)
(3,3)
(4,2)
(5,1)

3. How tall is the slide?

The slide is 7 feet tall because at 0 sec, he is at 7 feet height

4. How long does it take for the student to go down the slide?

For height (Y) to become 0 The total time on increasing the line cuts at 6sec So total time = 6sec

5. What happens between 0 seconds and 1 second?

At 0 sec, he is at 7 feet (0,7) At 1 sec, he is at 5 feet (1,5) So he slides down = 7-5 = 2 feet

6. Where is the student after 5 seconds?

At x=5, Y=1, So student is at 1 feet height on the slide
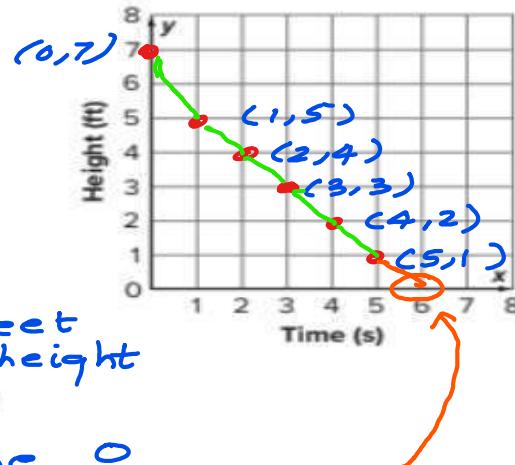
7. **STEM Connection** Poppy measures the height of a plant over several weeks and records it in the table. The plant is 14 inches tall before she begins recording. Write the weeks and corresponding heights as ordered pairs. (x,y)

Week	Height (inches)
1	16
2	20
3	22
4	22
5	28
6	32

X   Y

(1, 16) (2, 20) (3,22) (4,22)
(5,28) (6,32)
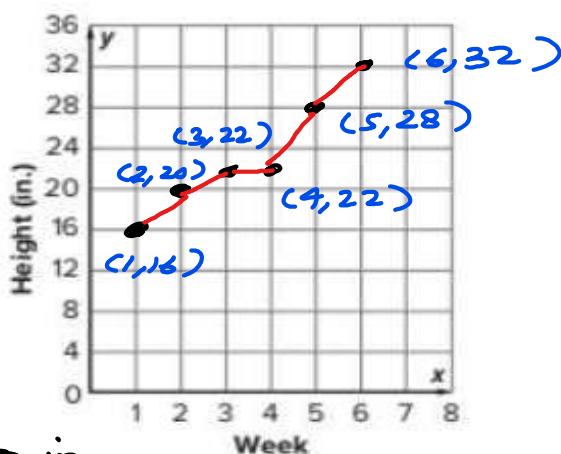
8. Plot and connect the points on the coordinate plane.

(6,32)
(3,22) (5,28)
(2,20)
(4,22)
(1,16)

9. How much does the plant grow between Weeks 1 and 2?

X=1, Y=16
X=2 Y=20
So plant grew = 20-16 = 4 in

10. What happens between Weeks 3 and 4?

X=3, Y=22
X=4, Y=22
So plant grew = 22-22 = 0 in

11. How much does the plant grow between before Poppy begins recording and Week 6?

X=6, Y=32, before recording Y=14 plant grew = 32-14 = 18 inches

**Classify each triangle by using their properties.**

1. ISOSCELES TRIANGLE

2. EQUILATERAL TRIANGLE

3. RIGHT ANGLED ISOSCELES TRIANGLE

4. OBTUSE ANGLED SCALENE TRIANGLE

5. EQUILATERAL TRIANGLE

6. ISOSCELES TRIANGLE

7. OBTUSE ANGLED SCALENE TRIANGLE

8. EQUILATERAL TRIANGLE
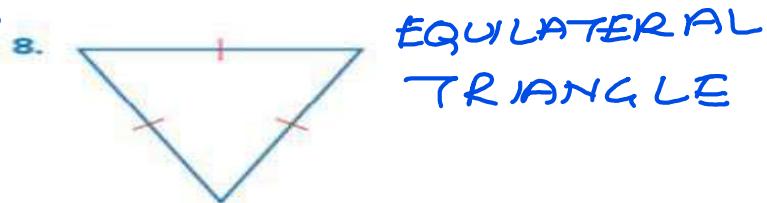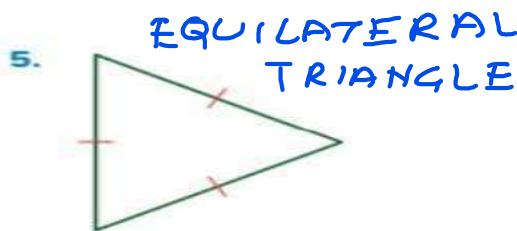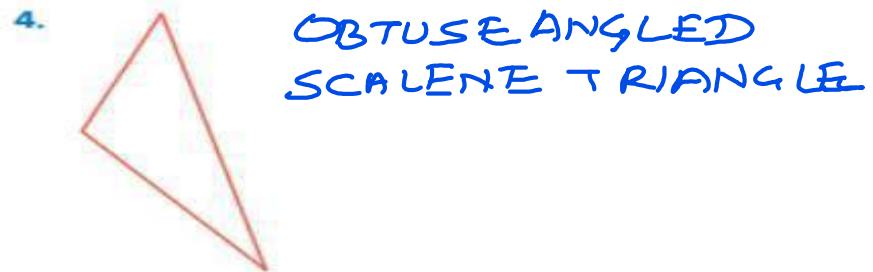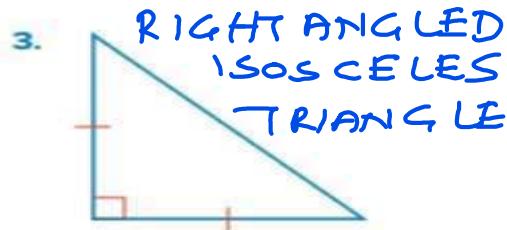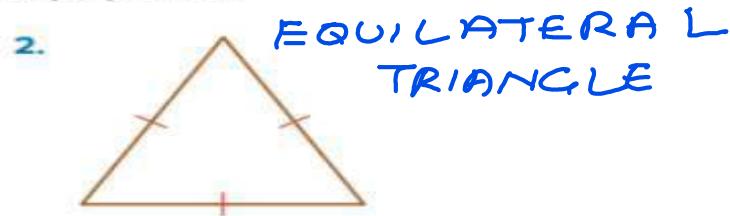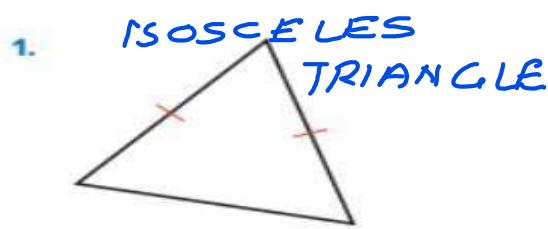
9. What is a property of all triangles?

3 SIDES , 3 ANGLES , 3 VERTEX

10. What is a property of scalene triangles?

ALL sides have different length

11. What is a property of isosceles triangles?

Two sides are equal in length

**12.** What is a property of equilateral triangles?

All sides are equal
All angles are equal and acute

Learn

How many different kinds of quadrilaterals can you make with line segment _AB_ as one of the sides?

You can identify quadrilaterals by their properties.

Learn

How many different kinds of quadrilaterals can you make with line segment *AB* as one of the sides?

A_____B

You can identify quadrilaterals by their properties.

A trapezoid is a quadrilateral with exactly one pair of parallel sides.
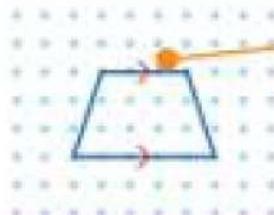
This mark shows this side is parallel to the other side having the same mark.

A parallelogram is a quadrilateral with two pairs of parallel sides.

A rectangle is a parallelogram with four right angles.
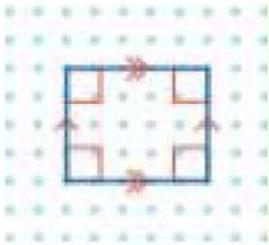
A rhombus is a parallelogram with four sides of equal length.
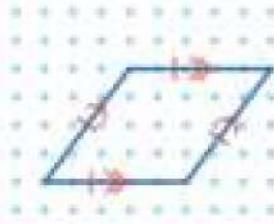
A square is a parallelogram with four sides of equal length and four right angles.
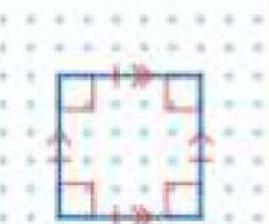
You can make 5 different kinds of quadrilaterals.

15	U13L5	Properties of Quadrilaterals	(1-8)	Page :215

Classify each figure by using their properties.

1. SQUARE

2. QUADRILATERAL

3. PARALLELOGRAM

4. SQUARE

5. TRAPEZOID

6. RHOMBUS

7. TRAPEZOID

8. RECTANGLE

16	U13L6	Classify Quadrilaterals by Properties	(1-8)	Page :221
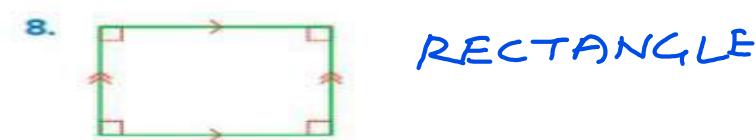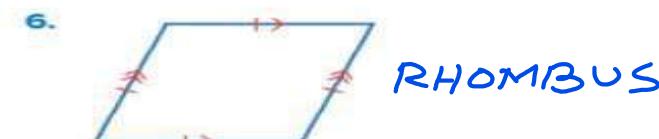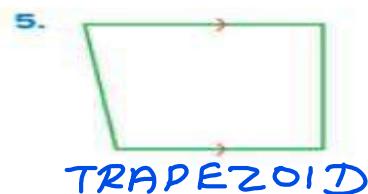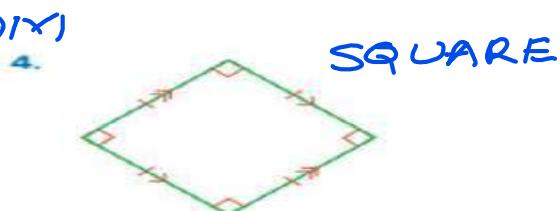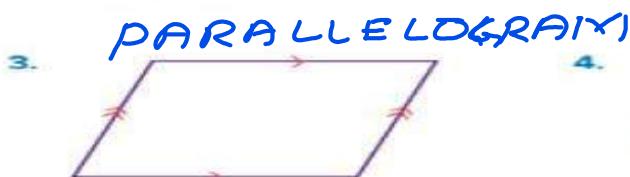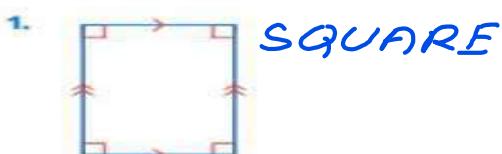
Use the figures for Exercises 1–8. Identify the figures that could be classified into each subcategory.

A B C D

E F G H
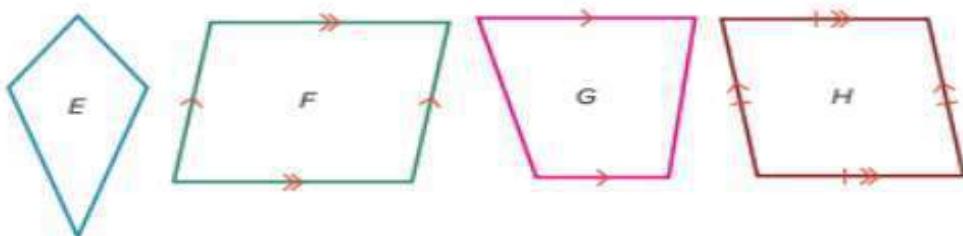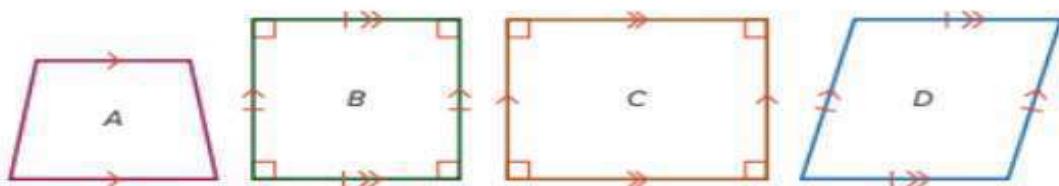
1. quadrilaterals — A, B, C, D, E, F, G, H
2. trapezoids — A, G
3. parallelograms — B, C, D, H, F
4. rectangles — C
5. rhombuses — D, H
6. squares — B

7. How did you know how to classify each shape? Explain.

By looking at number of equal sides and number of parallel, number of right angles

8. Did you classify any shapes into more than one category? If so, explain why. Yes, because square, rectangle, rhombus also have parallelogram property

16	U13L6	Classify Quadrilaterals by Properties	(9-12)	Page :222

9. **STEM Connection** Hanna is helping cut some sheets of metal. She needs to cut them so that they have 4 sides with two pairs of parallel sides. Some need to have 4 right angles and some do not. How can she classify the sheets of metal?

Rectangle, Square if she has 4 right angles, parallelogram and rhombus if no right angles

10. Which quadrilaterals always have 4 right angles?

Rectangle, Square

11. Which quadrilaterals always have exactly 1 pair of parallel sides?

TRAPEZOID

12. Which quadrilaterals always have 4 sides of equal length?

RHOMBUS, SQUARE

17	U14L1	Write Numerical Expressions	(1-8)	Page :233

What numerical expression represents the description?

1. Divide 40 by 5. Then, subtract 2.

$(40 \div 5) - 2$

2. Multiply 4 and 8. Then, add 7.

$(4 \times 8) + 7$

3. Add $2\frac{1}{2}$ and $4\frac{2}{3}$. Then, subtract $\frac{1}{8}$.

$$\left(2\tfrac{1}{2} + 4\tfrac{2}{3}\right) - \tfrac{1}{8}$$

4. Add 4.8 and 5.6. Then, subtract the sum from 16.9.

$$16.9 - (4.8 + 5.6)$$

5. Subtract $4\frac{1}{4}$ from $10\frac{2}{5}$. Then, divide by 3.

$$\left(10\tfrac{2}{5} - 4\tfrac{1}{4}\right) \div 3$$

6. Subtract 8 from 32. Then, divide 48 by the difference.

$$48 \div (32 - 8)$$

7. Add 6.7 and 8.25. Then, multiply by 11.2.

$$(6.7 + 8.25) \times 11.2$$

8. Divide 24 by 6. Multiply 5 and 7. Then, add the quotient and the product.

$$(24 \div 6) + (5 \times 7)$$

17	U14L1	Write Numerical Expressions	(10,14)	Page :258

10. What numerical expression represents *three more than seven?* (Lesson 14-1)

$$7 + 3$$

14. What expression represents *twelve less than eighteen?* (Lesson 14-1)

$$18 - 12$$

17	U14L1	Write Numerical Expressions	(21,23)	Page :259

21. What numerical expression represents *subtract eleven from twenty, then divide by three?* (Lesson 14-1)

$$(20 - 11) \div 3$$

23. What numerical expression represents *add three and six, then multiply by twenty?* (Lesson 14-1)

$$(3 + 6) \times 20$$

18	U14L3	Evaluate Numerical Expressions	Learn	Page :240

Learn

Two students evaluated $6 + (3 \times 8) \div 4$.

What might explain why their answers are different?

12    $7\frac{1}{2}$

$$6 + (3 \times 8) \div 4$$
$$6 + 24 \div 4$$
$$6 + 6$$
$$12$$

$$6 + (3 \times 8) \div 4$$
$$6 + 24 \div 4$$
$$30 \div 4 = \frac{30}{4} = \frac{15}{2} = 7\tfrac{1}{2}$$

One student did not follow order of operations
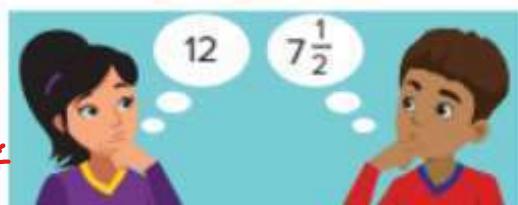
Which operation will you perform first to evaluate the expression? Explain your reasoning.

1. $25 - 5 \times (4 - 3)$

$(4-3)$
Because it is in brackets

2. $37 + 8 \div 2 - 5$

$8 \div 2$
because from left to right division is performed first

3. $\frac{3}{4} \times (2\frac{1}{2} + 6\frac{1}{4})$

$(2\frac{1}{2} + 6\frac{1}{4})$
because it is brackets

4. $100 \times 4 + 6 - 10$

100×4
because from left to right multiplication is performed first

What is the solution? Show your work.

5. $3 + 7 \times 2 = \underline{17}$

$3 + 14$
17

6. $(3 + 7) \times 2 = \underline{20}$

10×2
20

7. $56 \div 8 - 3 + 2 \times 5 = \underline{14}$

$7 - 3 + 10$
$4 + 10$
14

8. $56 \div (8 - 3 + 2) \times 5 = \underline{40}$

$56 \div 7 \times 5$
8×5
40

9. $2\frac{3}{8} + 1\frac{1}{4} \times 6\frac{3}{4} - \frac{1}{2} = 10\frac{5}{16}$

$\frac{19}{8} + \frac{5}{4} \times \frac{27}{4} - \frac{1}{2}$
$\frac{19}{8} + \frac{135}{16} - \frac{1}{2} = \frac{38 + 135 - 8}{16} = \frac{165}{16} = 10\frac{5}{16}$

10. $5.8 \times (6.75 + 3.25) \div 2 = \underline{29}$

$5.8 \times 10 \div 2$
$58 \div 2$
29

11. Which numerical expression is equal to 8?

A. $24 \div 6 \times 4 + 7$
B. $(24 \div 6) \times 4 + 7$
C. $24 \div (6 \times 4) + 7$ ⭕
D. $24 \div 6 \times (4 + 7)$

$24 \div (6 \times 4) + 7$
$24 \div 24 + 7$
$1 + 7 = 8$

12. Which numerical expression is equal to 1?

A. $96 \div 12 \times 4 \div 2$
B. $96 \div (12 \times 4) \div 2$ ⭕
C. $96 \div (12 \times 4 \div 2)$
D. $96 \div 12 \times (4 \div 2)$

$96 \div (12 \times 4) \div 2$
$96 \div 48 \div 2$
$2 \div 2$
$= 1$

Describe a relationship between corresponding terms in Patterns A and B.

1. Pattern A starts at 0 and adds 4 to each term.
   Pattern B starts at 0 and adds 2 to each term.

   Pattern A = 2× Pattern B

A	B
0	0
4	2
8	4
12	6

+4, +4, +4 on A side; +2, +2, +2 on B side; ×2

2. Pattern A starts at 0 and adds 3 to each term.
   Pattern B starts at 0 and adds 9 to each term.

   Pattern B = 3× Pattern A

A	B
0	0
3	9
6	18

+3, +3 on A side; +9, +9 on B side; ×3

3. Pattern A starts at 0 and adds 20 to each term.
   Pattern B starts at 0 and adds 5 to each term.

   Pattern A = 4 × Pattern B

A	B
0	0
20	5
40	10

+10, +10 on A side; +5, +5 on B side; ×4

Use the table to answer Exercises 4–6.

4. Fill in the unknown terms in the table.

Pattern A +2	Pattern B +8
0	0
2	8
4	16
6	24
8	32

+2 on A side; +8 on B side; ×4

5. What is a relationship between the corresponding terms in Patterns A and B?

   Pattern B = 4× Pattern A

6. If a term in Pattern A is 20, what will be its corresponding term in Pattern B?   Pattern B = 4 × 20 = 80

7. Pattern A starts at 0 and adds 1 to each term. Pattern B starts at 0 and adds 6 to each term. If 5 is a term in Pattern A, what is its corresponding term in Pattern B?

   pattern B = 6× pattern A

   pattern A = 5

   pattern B = 6×5

   = 30

A	B
0	0
1	6
2	12
3	18
4	24

+1 on A side; +6 on B side; ×6

8. Pattern A starts at 0 and adds 4 to each term. Pattern B starts at 0 and adds 8 to each term. If 24 is a term in Pattern A, what is its corresponding term in Pattern B?

$B = 2 \times A$

$A = 24$, So $B = 2 \times 24 = \boxed{48}$

A	B	
0	0	+8
4	8	+8
8	16	

$+4$ $+4$ $\times 2$

9. Pattern A starts at 0 and adds 3 to each term. Pattern B starts at 0 and adds 12 to each term. If 72 is a term in Pattern B, what is its corresponding term in Pattern A?

$B = 4 \times A$

$B = 72$, So $72 = 4 \times A$

$\frac{72}{4} = \frac{4}{4} \times A \longrightarrow \boxed{18 = A}$

A	B	
0	0	+12
3	12	+12
6	24	

$+3$ $+3$

10. STEM Connection Saffron is baking bread. She wrote these numerical patterns to record the amount of water and flour needed

Water (in cups): 3, 4, 5, 6, ...
Flour (in cups): 6, 8, 10, 12, ...
How many cups of water is needed when using 48 cups of flour

$Flour = 2 \times water$

$Flour = 48$

$48 = 2 \times water$

$\frac{48}{2} = \frac{2}{2} \times water$

$\boxed{24 = water}$

WATER	FLOUR
3	6
4	8
5	10
6	12

$\times 2$

Best of Luck

Mr. Dean
Mr. Deryl
Mr. Osama