

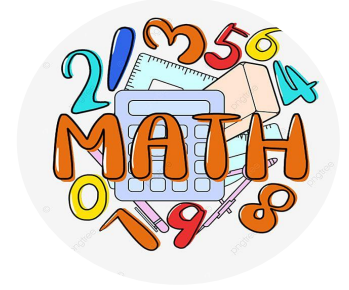
# Math

EOT 1 Exam Coverage

G7 ( general)

Teacher : Souad Atef





الأسئلة الموضوعية MCQ

15 main questions

4 Marks per main question



**Solve each problem. Use any strategy, such as a bar diagram, double number line, ratio table, or division.**

1. A truck driver drove 48 miles in 45 minutes. At this rate, how many miles can the truck driver drive in one hour? (Example 1)

2. Russell runs  $\frac{9}{10}$  mile in 5 minutes. At this rate, how many miles can he run in one minute? (Example 1)

3. A small airplane flew 104 miles in 50 minutes. At this rate, how many miles can it fly in one hour? ( $50 \text{ minutes} = \frac{5}{6} \text{ hour}$ ) (Example 1)

4. DeAndre downloaded 8 apps onto his tablet in 12 seconds. At this rate, how many apps could he download in one minute?

( $12 \text{ seconds} = \frac{1}{5} \text{ minute}$ ) (Example 1)

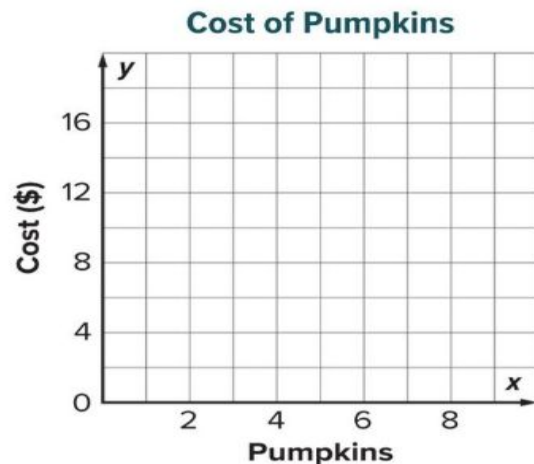
5. In Lixue's garden, the green pepper plants grew 5 inches in  $\frac{3}{4}$  month. At this rate, how many feet can they grow in one month?

(Let  $5 \text{ inches} = \frac{5}{12} \text{ foot}$ ) (Example 2)

6. Thunder from a bolt of lightning travels  $\frac{1}{10}$  mile in  $\frac{1}{2}$  second. At this rate, how many miles can it travel in one second? (Example 2)

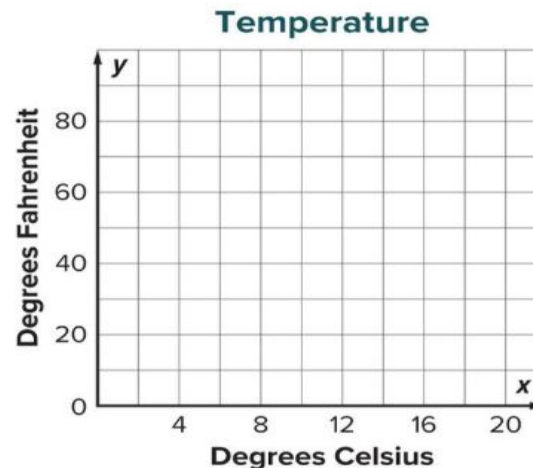
1. The cost of pumpkins is shown in the table. Determine whether the cost of a pumpkin is proportional to the number bought by graphing the relationship on the coordinate plane. Explain. (Example 1)

Number of Pumpkins	0	1	2	3	4
Cost (\$)	0	4	8	12	16



2. The table shows temperatures in degrees Celsius and their equivalent temperatures in degrees Fahrenheit. Determine whether the temperature in degrees Fahrenheit is proportional to the temperature in degrees Celsius by graphing the relationship on the coordinate plane. Explain. (Example 2)

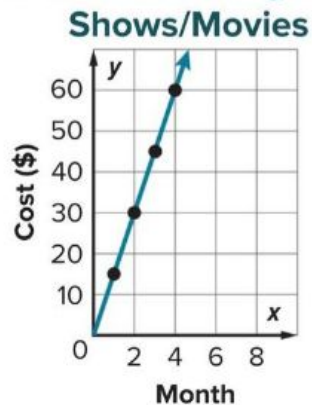
Celsius (degrees)	0	5	10	15	20
Fahrenheit (degrees)	32	41	50	59	68





3. The total cost of online streaming is proportional to the number of months. What is the constant of proportionality? (Example 3)

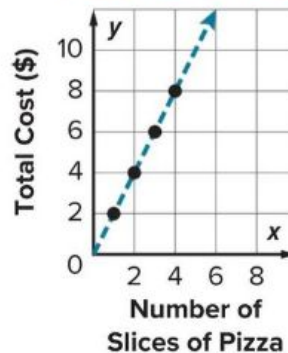
### Online Streaming of TV



### Test Practice

4. **Open Response** The cost per slice of pizza is proportional to the number of slices as shown in the graph. What do the points (0, 0) and (1, 2) represent? (Example 4)

### Pizza Slices Cost



1. Liv earns \$9.50 for every two bracelets she sells. The equation  $y = 4.75x$ , where  $x$  represents the number of bracelets and  $y$  represents the total cost in dollars earned, represents this situation. What is the constant of proportionality? What does the constant of proportionality represent in the context of the problem? (Example 1)
2. John ran 3 miles in 25.5 minutes. The equation  $y = 8.5x$ , where  $x$  represents the number of miles and  $y$  represents the total time in minutes, represents this situation. What is the constant of proportionality? What does the constant of proportionality represent in the context of the problem? (Example 1)
3. Lincoln bought 3 bottles of an energy drink for \$4.50. Write an equation relating the total cost  $y$  to the number of energy drinks bought  $x$ . (Example 2)
4. The total cost of renting a cotton candy machine for 4 hours is \$72. What equation can be used to model the total cost  $y$  for renting the cotton candy machine  $x$  hours? (Example 2)
5. Marley used 7 cups of water to make 4 loaves of French bread. What equation can be used to model the total cups of water needed  $y$  for making  $x$  loaves of French bread? How many cups of water do you need for 6 loaves of French bread? (Example 3)
6. Mrs. Henderson used  $6\frac{3}{4}$  yards of fabric to make 3 elf costumes. What equation can be used to model the total number of yards of fabric  $y$  for  $x$  costumes? How many yards of fabric do you need for 7 elf costumes? (Example 3)

For each problem, use any method. Assume each relationship is proportional. (Examples 1 and 2)

1. For every three girls taking classes at a martial arts school, there are 4 boys who are taking classes. If there are 236 boys taking classes, predict the number of girls taking classes at the school.

2. A grading machine can grade 96 multiple choice tests in 2 minutes. If a teacher has 300 multiple choice tests to grade, predict the number of minutes it will take the machine to grade the tests.

3. A 6-ounce package of fruit snacks contains 45 pieces. How many pieces would you expect in a 10-ounce package?

4. Of the 50 students in the cafeteria, 7 have red hair. If there are 750 students in the school, predict the number of students who have red hair.

5. The wait times for two different rides are shown in the table. If there are 120 people in line for the swings, how long can you expect to wait to ride the ride?

Ride	Wait Times
Carousel	6 minutes for 48 people in line
Swings	12 minutes for 75 people in line

**Find each percent of change. Identify it as a percent of increase or decrease.** (Examples 1–3)

**1.** 8 feet to 10 feet

**2.** 62 trees to 31 trees

**3.** 136 days to 85 days

**4.** Last month, the online price of a powered ride-on car was \$250. This month, the online price is \$330. What is the percent of increase for the price of the car? (Example 1)

**5.** At end of the first half of a football game, Nathan had carried the ball for 50.5 yards. By the end of the game, he carried the ball for a total of 75 yards. Find the percent of increase in the number of yards he carried. Round to the nearest whole tenth if necessary. (Example 1)

**6.** A music video website received 5,000 comments on a new song they released. The next day, the artist performed the song on television and an additional 1,500 comments were made on the website. What was the percent of increase? (Example 1)

- 7.** When Ricardo was 9 years old, he was 56 inches tall. Ricardo is now 12 years old and he is 62 inches tall. Find the percent of increase in Ricardo's height to the nearest tenth. (Example 1)

- 8.** At a garage sale, Petra priced her scooter for \$15.50. She ended up selling it for \$10.75. Find the percent of decrease in the price of the scooter. Round to the nearest tenth if necessary. (Example 2)

**Find the total cost to the nearest cent.** (Examples 1–3)

**1.** \$18 breakfast; 7% tax

**2.** \$24 shirt; 6% tax

**3.** \$49.95 pair of shoes; 5% tax



**4.** Emily wants to buy new boots that cost \$68. The sales tax rate in her city is  $5\frac{1}{2}\%$ . What is the total cost for the boots? (Example 1)

**6.** Mr. Phuong stayed in a hotel room for 2 nights that cost \$210. The hotel room tax rate in the city is 12%. What is the total cost for the hotel room? (Example 2)

**5.** Jack wants to buy a coat that costs \$74.95. The sales tax rate in his city is  $6\frac{1}{2}\%$ . What is the total cost for the coat? (Example 1)

**7.** The cost of a hotel room during Lacy's trip is \$325. The hotel room tax in the city she is in is 10.5%. What is the total cost of the hotel room? (Example 2)

**Find the total cost to the nearest cent. Use any strategy.** (Examples 1 and 2)

**1.** \$20 haircut; 10% tip

**2.** \$24 lunch; 15% tip

**3.** \$185 TV; 5% markup

**4.** Vera went to the local salon to get a haircut. The cost was \$24. Vera tipped the hair stylist 18%. What was the total cost of haircut including the tip? Round to the nearest cent. (Example 1)

**5.** The Gomez family ordered \$39.50 worth of pizza and subs. They gave the delivery person a 20% tip. What was the total cost of the food and tip? Round to the nearest cent. (Example 1)

**Find the sale price to the nearest cent. Use any strategy. (Example 1)**

**1.** \$140 coat; 10% discount

**2.** \$80 boots; 25% discount

**3.** \$325 tent; 15% discount

**4.** A toy store is having a sale. A video game system has an original price of \$99. It is on sale for 40% off the original price. Find the sale price of the game system. Round to the nearest cent. (Example 1)

**5.** A yearly coffee club subscription costs \$65. Avery received an offer for 62% off the subscription cost. What is the sale price of the subscription? Round to the nearest cent. (Example 1)

- 6.** During a clearance sale at a sporting goods store, skateboards were marked down 30%. On Saturday, an additional 25% was taken off already reduced prices of skateboards. If a skateboard originally cost \$119.50, what was the final price after all discounts had been taken? Round to the nearest cent.

(Example 2)

- 8.** Gary had a 40% discount for new tires. The sale price of a tire was \$96.25. What was the original price of the tire? Round to the nearest cent. (Example 3)

- 7.** At an electronics store, a smart phone is on sale for 35% off the original price of \$679. If you use the store credit card, you can receive an additional 15% off the sale price. What is the final price of the smart phone if you use the store credit card? Round to the nearest cent. (Example 2)

- 9.** A swimsuit is on sale for \$45.50. If the sale price is discounted 5% from the original price, what was the original price? Round to the nearest cent. (Example 3)

**Add.** (Examples 1, 4, and 6)

1.  $-3 + (-8)$

2.  $-11 + (-13)$

3.  $9 + (-35)$

4.  $-28 + 14$

5.  $-22 + (-10) + 15$

6.  $18 + (-12) + 5$

10	Use different methods, including algebra tiles, number lines, or the additive inverse, to subtract integers.	10-13	pg.147
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**10.** Evaluate  $a - b$  if  $a = 10$  and  $b = -7$ .

(Example 3)

**12.** Find the distance between  $-6$  and  $7$  on a number line. (Example 4)

**11.** Evaluate  $x - y$  if  $x = -11$  and  $y = 26$ .

(Example 3)

**13.** Find the distance between  $-14$  and  $5$  on a number line. (Example 4)



**Divide.** (Examples 1 and 3)

**1.**  $22 \div (-2)$

**2.**  $-110 \div 11$

**3.**  $75 \div (-3)$

**4.**  $-64 \div (-8)$

**5.**  $-39 \div (-13)$

**6.**  $-50 \div (-10)$

**Write each fraction as a decimal. Determine if the decimal is a terminating decimal.**

(Examples 1 and 2)

1.  $\frac{5}{8}$

2.  $-\frac{3}{4}$

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

4.  $-\frac{5}{6}$

5.  $-\frac{4}{5}$

6.  $\frac{23}{50}$

**Find the additive inverse of each rational number.** [\(Example 1\)](#)

**1.**  $-\frac{1}{2}$

**2.** 0.25

**3.**  $\frac{9}{10}$

**4.**  $-0.4$

**Subtract. Write in simplest form.** (Examples 1 and 2)

5.  $7\frac{5}{12} - \left(-3\frac{3}{4}\right)$

6.  $5\frac{9}{10} - \left(-8\frac{2}{5}\right)$

7.  $-\frac{7}{8} - 2\frac{1}{6}$

8.  $-\frac{8}{15} - 3\frac{4}{5}$

9.  $-9\frac{7}{10} - \left(-4\frac{3}{5}\right)$

10.  $\frac{5}{6} - \left(-\frac{3}{4}\right)$

11.  $-\frac{2}{3} - \left(-\frac{1}{2}\right)$

12.  $-\frac{7}{10} - \left(-\frac{4}{15}\right)$

**Multiply. Write the product in simplest form.** (Examples 1 and 2)

1.  $-\frac{1}{2}\left(-\frac{4}{5}\right)$

2.  $-\frac{3}{8}\left(-\frac{8}{9}\right)$

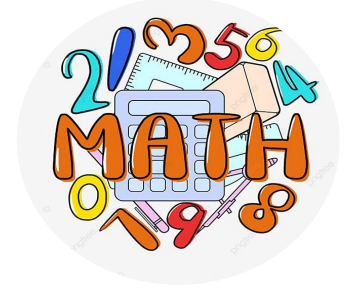
3.  $-\frac{1}{4}\left(-\frac{4}{5}\right)$

4.  $1\frac{4}{9}\left(-2\frac{4}{7}\right)$

5.  $1\frac{1}{10}\left(-6\frac{7}{8}\right)$

6.  $-5\frac{1}{4}\left(-4\frac{2}{3}\right)$

# FRQ الأسئلة المقالية



Number of FRQ عدد الأسئلة المقالية	6
Marks per FRQ الدرجات للأسئلة المقالية	(6-10)





For each situation, complete the table given. Does the situation represent a proportional relationship? Explain.

1. The cost of a school lunch is \$2.50.

(Example 1)

Lunches Bought	1	2	3	4
Total Cost (\$)				

2. Anna walks her dog at a constant rate of 12 blocks in 8 minutes. (Example 1)

Number of Blocks	12	24	36	48
Number of Minutes				

3. Fun Center rents popcorn machines for \$20 per hour. In addition to the hourly charge, there is a rental fee of \$35. (Example 2)

Hours	1	2	3	4
Cost (\$)				

4. Jean has \$280 in her savings account. Starting next week, she will deposit \$30 in her account every week. (Example 2)

Weeks	1	2	3	4
Savings (\$)				

5. Rocko paid \$12.50 for 25 game tickets. Louisa paid \$17.50 for 35 game tickets. What is the constant of proportionality? (Example 3)

6. A baker, in 70 minutes, iced 40 cupcakes and, in 49 minutes, iced 28 cupcakes. What is the constant of proportionality? (Example 3)

7. The table shows the amount of dietary fiber in bananas. Use the table to find the constant of proportionality. (Example 4)

Dietary Fiber (g)	9.3	18.6	27.9	37.2
Bananas	3	6	9	12

**Determine if each situation represents a proportional relationship. Explain your reasoning.** (Examples 1 and 2)

1. A salad dressing calls for 3 parts oil and 1 part vinegar. Manuela uses 2 tablespoons of vinegar and 6 tablespoons of oil to make her salad dressing.
2. A specific shade of orange paint calls for 2 parts yellow and 3 parts red. Catie uses 3 cups of yellow paint and 4 cups of red paint to make orange paint.
3. A saltwater solution for an aquarium calls for 35 parts salt to 1000 parts water. Tareq used 7 tablespoons of salt and 200 tablespoons of water.
4. A conveyor belt moves at a constant rate of 12 feet in 3 seconds. A second conveyor belt moves 16 feet in 4 seconds.
5. A tectonic plate in Earth's crust moves at a constant rate of 4 centimeters per year. In a different part of the world, another tectonic plate moves at a constant rate of 30 centimeters in ten years.
6. A strand of hair grows at a constant rate of  $\frac{1}{2}$  inch per month. A different strand of hair grows at a constant rate of 4 inches per year.

18	Use the simple interest formula to find the amount of interest earned for a given principal, at a given interest rate, for a given period of time.	1 - 7	pg.105
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**Find the simple interest earned, to the nearest cent, for each principal, interest rate, and time.** [\(Example 1\)](#)

1. \$530, 6%, 1 year
2. \$1,200, 3.5%, 2 years
3. \$750, 7%, 3 years

4. Elena's father put \$460 into a savings account for her. The account pays 2.5% simple interest each year. If he neither adds nor withdraws money from the account, how much interest will the account earn after 4 years? Round to the nearest cent. (Example 1)
5. Ethan put \$1,250 into a savings account. The account pays 4.5% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 2 years? Round to the nearest cent. (Example 1)
6. Marc deposits \$840 into a savings account. The account pays 2% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 6 months? Round to the nearest cent. (Example 2)
7. Nina's grandmother deposits \$3,000 into a savings account for her. The account pays 5.5% simple interest on an annual basis. If she does not add or withdraw money from the account, how much interest will she earn after 21 months? Round to the nearest cent. (Example 2)

**Solve each problem.**

1. Doug estimates that his soccer team will win 7 games this year. The team actually wins 10 games. What is the percent error of Doug's estimate? Round the answer to the nearest tenth percent, if necessary.  
(Example 1)
2. A mayor estimates that 4,000 people will attend the first day of the county fair. A total of 8,400 people actually attend the first day of the fair. What is the percent error of the mayor's estimate? Round the answer to the nearest tenth percent, if necessary.  
(Example 1)
3. Maya estimates that the wait time for her favorite roller coaster is 35 minutes. The actual wait time is 55.5 minutes. What is the percent error of Maya's estimate? Round the answer to the nearest tenth of a percent, if necessary. (Example 1)
4. Oliver estimates the weight of his cat to be 16 pounds. The actual weight of his cat is 14.25 pounds. What is the percent error of Oliver's estimate rounded to the nearest tenth of a percent? (Example 1)
5. A jar of marbles should contain 100 marbles. The jar actually has 99 marbles. What is the percent error to the nearest hundredth of a percent? (Example 1)
6. A cyclist estimates that he will bike 80 miles this week. He actually bikes 75.5 miles. What is the percent error of the cyclist's estimate rounded to the nearest hundredth of a percent? (Example 1)



Evaluate each expression if  $a = -2$ ,  $b = 3$ ,  $c = -12$ , and  $d = -4$ . (Example 3)

7.  $\frac{bd}{a} + c$

8.  $\frac{ac}{b} - (a + d)$

9.  $\frac{d^3}{a^2} - (c + b)$

Evaluate each expression if  $m = -32$ ,  $n = 2$ ,  $p = -8$ , and  $r = 4$ . (Example 3)

10.  $\frac{pr}{n} + m$

11.  $\frac{p^2}{m} - (np + r)$

12.  $\frac{p^3}{r^2} - (m + np)$

**Multiply. Write the product in simplest form.** (Example 3)

7.  $-\frac{1}{6}(2.4)$

8.  $\frac{2}{5}(-3.75)$

9.  $-\frac{1}{4}(-8.6)$

**Evaluate each expression if  $x = -\frac{2}{3}$ ,  $y = \frac{3}{5}$ , and  $z = -1\frac{7}{8}$ . Write the product in simplest form.** (Example 4)

10.  $\frac{1}{4}xy$

11.  $-\frac{4}{5}xz$

12.  $\frac{1}{2}yz$

## Test Practice

13. Evaluate  $-xyz$  if  $x = -8.4$ ,  $y = 0.25$ , and  $z = 3\frac{4}{5}$ . Write your answer in simplest form.

(Example 5)

14. **Equation Editor** Evaluate  $\frac{1}{2}xyz$  if  $x = -8.4$ ,  $y = 0.25$ , and  $z = 3\frac{4}{5}$ . Write your answer in simplest form.

←	→	↶	↷	✕					
1	2	3	+	-	×	÷			
4	5	6	<	≤	=	≥	>		
7	8	9	$\frac{x}{n}$	$x^n$	()		$\sqrt{x}$	$\sqrt[n]{x}$	$\pi$
0	.	-							

**Add. Write in simplest form.** (Examples 3–6)

**7.**  $3\frac{5}{6} + (-1\frac{1}{6})$

**8.**  $-13\frac{1}{4} + 4\frac{3}{4}$

**9.**  $-\frac{2}{3} + 2\frac{3}{8}$

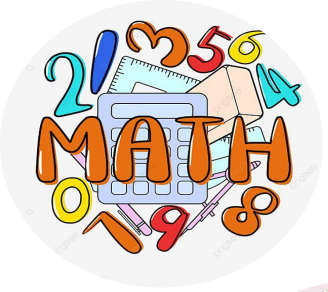
**10.**  $2\frac{1}{2} + (-\frac{1}{3})$

**11.**  $-3.7 + \frac{1}{4}$

**12.**  $\frac{1}{3} + 4.1$

**13.**  $-1\frac{1}{4} + 0.75 + 0.45$

**14.**  $-0.25 + 3\frac{1}{6} + 2\frac{1}{12}$



مع تمنياتي للجميع بالنجاح  
والتوفيق

معلمة المادة : سعاد عاطف

