



Grade 7: Chapter 2 Test – Operations with Rational Numbers

Student Name		Class		Date	
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MULTIPLE CHOICE QUESTIONS: NO CALCULATOR ALLOWED

1	Which fraction is equivalent to $2\frac{3}{4}$?	
	A	$\frac{5}{4}$
	B	$\frac{6}{4}$
	C	$\frac{9}{4}$
D	$\frac{11}{4}$	

2	What is the product of $-\frac{1}{6}$ and $\frac{5}{6}$ in simplest form?	
	A	$-\frac{1}{6}$
	B	$-\frac{5}{36}$
	C	$\frac{5}{36}$
D	$\frac{1}{6}$	

3	How many minutes are equal to $\frac{1}{3}$ of an hour?	
	A	10 minutes
	B	15 minutes
	C	20 minutes
D	30 minutes	

4	What is the multiplicative inverse of $\frac{8}{9}$?	
	A	$-\frac{9}{8}$
	B	$-\frac{8}{9}$
	C	1
D	$\frac{9}{8}$	



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5	What is the quotient of $\frac{3}{2}$ and $\frac{2}{3}$?	
	A	$\frac{4}{9}$
	B	1
	C	$\frac{3}{2}$
	D	$2\frac{1}{4}$

6	Refer to the number line shown. Which of the following rational numbers is greater than -0.32 ?	
	A	$-\frac{4}{10}$
	B	$-0.\overline{39}$
	C	$-\frac{3}{8}$
	D	$-0.\overline{31}$

7	Write $0.\overline{7}$ as a fraction in simplest form.	
	A	$-\frac{7}{9}$
	B	$-\frac{77}{100}$
	C	$\frac{77}{100}$
	D	$\frac{7}{9}$

8	What symbol can be substituted for [] to make the following statement true?	
	$-5 [] -3.98$	
	A	$>$
	B	$<$
	C	$=$
	D	$+$



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9	What is the value of the expression $4rs$ if $r = -\frac{1}{3}$ and $s = \frac{7}{8}$?	
	A	$-1\frac{1}{6}$
	B	$-\frac{7}{24}$
	C	$1\frac{1}{6}$
10	D	$3\frac{1}{2}$

10	Simplify the expression $\frac{7a}{9bc} \div \frac{21a}{12b}$.	
	A	$\frac{3}{4c}$
	B	$\frac{4}{3c}$
	C	$\frac{4}{9c}$
11	D	$\frac{49a}{36bc}$

MULTIPLE CHOICE SECTION:

/10



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CONSTRUCTIVE RESPONSE QUESTIONS: CALCULATOR MAY BE USED

11

Four pieces of wood, each $11\frac{3}{8}$ meters long, are required for building a frame. If all four pieces are cut from one board, how long should the board be, to the nearest whole meter?

marks: / 3

12

Abdullah bought a can of almonds. He gave $\frac{1}{4}$ of the almonds to his brother, $\frac{1}{6}$ to his friend, and kept the rest for himself. What fraction of the almonds did he keep for himself?

marks: / 3

13

- a) Write a division problem that has a divisor of $\frac{a}{3}$ and a quotient $\frac{5b}{a}$.

(Hint: The divisor is what we divide by, and the quotient is the result.)

- b) Use the same fractions above to find the dividend.

marks: / 3



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14	Find the area and the perimeter of a rectangle with a length of 8 meters and a width of $6\frac{2}{9}$ meters. Write each answer as a fraction and as a decimal. Use bar notation if necessary.
	<div style="text-align: right;">marks: /6</div>

MULTIPLE CHOICE SECTION:	/10
EXTENDED RESPONSE SECTION:	/15
TOTAL MARKS:	/25
PERCENT:	%

Grade	7	Lesson(s)	2-1, 2-2, 2-3, 2-4, 2-5, 2-6
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Answer Key

MULTIPLE CHOICE QUESTIONS:

Q1	D
Q2	A
Q3	C
Q4	D
Q5	C
Q6	D
Q7	D
Q8	B
Q9	A
Q10	C

CONSTRUCTIVE RESPONSE QUESTIONS:

Q11	Ans: 46 meters or 46 m	
	<ol style="list-style-type: none"> multiply fraction by whole number answer rounding 	<ul style="list-style-type: none"> $4 \times 11 \frac{3}{8}$ $45 \frac{1}{2} \text{ m}$ or $44 \frac{12}{8} \text{ m}$ 46 m
	<ul style="list-style-type: none"> The 1st mark is awarded for the correct multiplication expression. The 2nd mark is awarded for the correct answer. The 3rd mark is awarded for rounding to the nearest whole number. If the pupil does not state unit, you may still award the mark, but make the pupil aware that this is common practice. 	

Q12	Ans: $\frac{7}{12}$	
	<ol style="list-style-type: none"> Add like fractions. subtract fraction from whole number answer 	<ul style="list-style-type: none"> $\frac{1}{4} + \frac{1}{6} = \frac{5}{12}$ $1 - \frac{5}{12}$ $\frac{7}{12}$
	<ul style="list-style-type: none"> The 1st mark is awarded for adding fractions. <ul style="list-style-type: none"> Common mistakes will be $\frac{1}{10}$ and $\frac{2}{10}$. The 2nd mark is awarded for showing a subtraction expression. <ul style="list-style-type: none"> Award the mark even if the answer from the 1st mark is wrong, but the pupil wrote the subtraction expression correctly. The 3rd mark is awarded for the answer. <ul style="list-style-type: none"> If the answer from the 1st mark is wrong but subtracted correctly from 1, award the 3rd mark for correctly using this value. It is possible for a pupil to go from adding the fractions to the answer and missing the working for the 2nd mark. In this scenario, if the answer for the 3rd mark is stated correctly after adding the fractions, award both the 2nd and 3rd marks. 	



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Q13	Ans: $\frac{5b}{3}$	
	1. dividend \div divisor = quotient	<ul style="list-style-type: none"> $-\div \frac{a}{3} = \frac{5b}{a}$ OR $\frac{5b}{a} \times \frac{a}{3} = -$
	2. calculate denominator of dividend	<ul style="list-style-type: none"> 3
	3. calculate numerator of dividend	<ul style="list-style-type: none"> 5b
<ul style="list-style-type: none"> The 1st mark is awarded for writing the expression. The 2nd mark is awarded for the denominator 3. The 3rd mark is awarded for the numerator 5b. 		

Ans: Area = $49\frac{7}{9} \text{ m}^2 = 49.\bar{7} \text{ m}^2$

Perimeter = $28\frac{4}{9} \text{ m} = 28.\bar{4} \text{ m}$

Area

1. multiplying fractions
2. answer
3. answer as a decimal

Perimeter

4. adding fractions
5. answer
6. answer as a decimal

Area	Perimeter
<ul style="list-style-type: none"> • $8 \times 6\frac{2}{9}$ • $49\frac{7}{9} \text{ m}^2$ 	<ul style="list-style-type: none"> • $(8 + 6\frac{2}{9}) \times 2$ OR $8 + 8 + 6\frac{2}{9} + 6\frac{2}{9}$ • $28\frac{4}{9} \text{ m}$
<ul style="list-style-type: none"> • $49.\bar{7} \text{ m}^2$ 	<ul style="list-style-type: none"> • $28.\bar{4} \text{ m}$

Q14

- The 1st mark is awarded for multiplying a fraction by a whole number for the area.
- The 2nd mark is awarded for writing the correct area as a fraction.
- The 3rd mark is awarded for converting the area to a decimal.
- The 4th mark is awarded for calculating the perimeter by either method shown above.
- The 5th mark is awarded for writing the correct perimeter as a fraction.
- The 6th mark is awarded for converting the perimeter to a decimal.

- If the pupil does not state unit, you may still award the mark, but make the pupil aware that this is common practice.
- If working for the 1st mark isn't shown but the correct answer for the 2nd mark is written, award the 1st and 2nd marks.
- If working for the 4th mark isn't shown but the correct answer for the 5th mark is written, award the 4th and 5th marks.
- If the 2nd mark isn't awarded, the 3rd mark can still be awarded.
- If the 5th mark isn't awarded, the 6th mark can still be awarded.
- If only the answer is written as a decimal for the area, award the 3rd mark only.
- If only the answer is written as a decimal for the perimeter, award the 6th mark only.