

Math test

### PAP QCA 2 Review

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Write the fraction  $\frac{8}{25}$  as a decimal. (6.4H, 7.4E)

$$\begin{array}{r} .32 \\ 25 \overline{) 8.00} \\ \underline{75} \phantom{0} \\ 50 \\ \underline{50} \\ 0 \end{array} \quad .32$$

2. How is 53% expressed as a decimal? (6.4H, 7.4E)

$$\frac{53}{100} = .53$$

3. How is the fraction  $\frac{3}{5}$  expressed as a percent? (6.4H, 7.4E)

$$\frac{3}{5} = \frac{60}{100} = 60\%$$

4. How is the decimal 0.71 expressed as a percent? (6.4H, 7.4E)

$$.71 = \frac{71}{100} = 71\%$$

5. Suzie bought 6 apples for \$1.20. If each apple cost the same amount, how much would 20 apples cost? (7.4D)

$$\begin{array}{ccc} \text{App} & 6 & 20 \\ \hline \$ & 1.20 & x \end{array} \quad 1.2(20) = 24 \div 6 = 4$$

$\$4$

6. A baseball player got a hit 3 out of every 10 times he was at bat. What percent of the time does the player get a hit? (7.4D)

$$\frac{\text{Hit}}{\text{Bats}} = \frac{3}{10} = \frac{30}{100} = 30\%$$

7. Find the unit rate for the situation.  
360 km in 6 h (7.4B)

$$\frac{\text{km}}{\text{hr}} = \frac{360}{6} = \frac{x}{1} \quad 360(1) \div 6 = 60 \text{ km/hr}$$

8. What is the cost for a single can of coke if an 8 pack cost \$5.20. (7.4B)

$$\frac{\$}{\text{Coke}} = \frac{5.20}{8} = \frac{x}{1} \quad 5.20(1) \div 8 = .65 / \text{1 coke}$$

9. The cost of gasoline is \$2.35 per gallon. What is this unit rate as a ratio? What ratio would you use to find the cost of 6 gallons? (7.4B, )

$$\frac{2.35}{1} \text{ ratio}$$

$$\frac{2.35}{1} = \frac{x}{6}$$

10. A scale model of the Golden Gate Bridge in San Francisco has a main span that is 284 centimeters long. If the scale of the model is 1 cm : 15 ft, how long is the main span of the bridge? (7.5C)

$$\frac{\text{model}}{\text{Actual}} \quad \frac{1}{15} \quad \frac{284}{x} \quad 284(15) = 4260 \text{ ft}$$

11. A map has a scale of 3 centimeters: 8 kilometers. If two cities are 11 centimeters apart on the map, what is the actual distance between the cities, to the nearest tenth of a kilometer? (7.5C)

$$\frac{\text{map}}{\text{actual}} \quad \frac{3}{8} \quad \frac{11}{x} = 11(8) \div 3 = 29.\overline{3}$$

$$29.3 \text{ km}$$

6th Pre-AP QCA I Review

12.

Grace is driving 200 miles. Her car gets 20 miles per gallon (that means she uses 1 gallon of gas for every 20 miles she drives). If gas costs \$3.49, how much will she spend on gas?

7.4D

Record your answers and fill in the bubbles below. Be sure to use the correct place value.

				.		
0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

$$\frac{\text{miles } 200}{\text{gal } 20} = 10 \text{ mts/gal}$$

$$10 \times 3.49 = \$34.90$$

13.

Sydney bought an \$1831.80 couch, tax included, using a 12 month/no interest credit card. If she is going to break the \$1831.80 into 12 equal payments, how much will she pay each month?

7.3B

Record your answers and fill in the bubbles below. Be sure to use the correct place value.

$$\begin{array}{r} 152.65 \\ 12 \overline{) 1831.80} \\ \underline{12} \phantom{00} \\ 63 \phantom{00} \\ \underline{60} \phantom{00} \\ 31 \phantom{00} \\ \underline{24} \phantom{00} \\ 78 \phantom{00} \\ \underline{72} \phantom{00} \\ 60 \end{array}$$

	1	5	2	.	6	5
0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

(7.3B)

14. There are 75 people waiting in line to buy movie tickets. Each person in line is allowed to purchase one ticket. But, tickets sold out after 40% of the people bought tickets. How many people bought a movie ticket? (7.4D)

$$40\% \times 75$$

$$.40(75) = 30 \text{ people}$$

15. A baseball stand concessionaire expects to sell 1 hot dog for every 14 people that attend a baseball game. Which of the following is a reasonable estimate of the number of hot dogs he could sell if there are 44,772 people in attendance? 7.4D

- A. 2,900
- B. 5,285
- C. 8,194
- D. 3,200

$$\frac{\text{HD}}{\text{people}} = \frac{1}{14} \times \frac{x}{44,772} = 3,198$$

16. Mrs. Smith wants to purchase table pads for her circular dining room table. If the table has a diameter of 3 feet and the pads cost 50 cents per square foot, approximately how much will the table pads cost? Use 3.14 for  $\pi$ . 7.4D

- A. \$14.13
- B. \$9.42
- C. \$4.71
- D. \$3.53

$$\frac{\text{pads}}{\$} = \frac{1}{50} \times \frac{x}{\pi} = (0.5)(7) = 3.5$$

$$\frac{3.14}{3.14}$$

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17. Green beans cost \$0.40 a single can or \$4.56 for a dozen cans. How much less per can does it cost to buy by the dozen? 7.4B

$$\frac{4.56}{12} = \frac{x}{1} = .39$$

.01

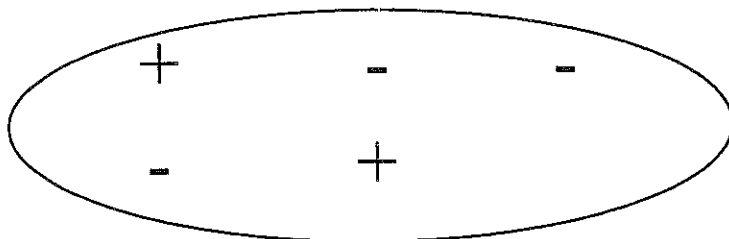
1 cent

$$A = \pi r^2$$

$$(3.14)(1.5)^2$$

$$A = 7.065$$

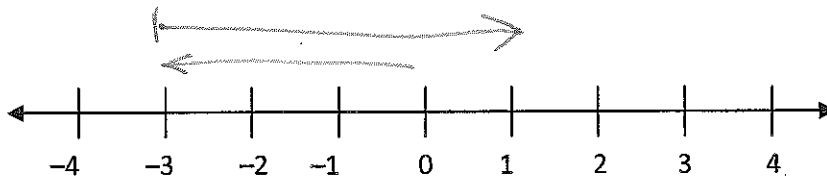
18. Jason used the model below to add positive and negative integers. Write an expression that shows the problem he is trying to solve. (6.3C)



$$2 + -3$$

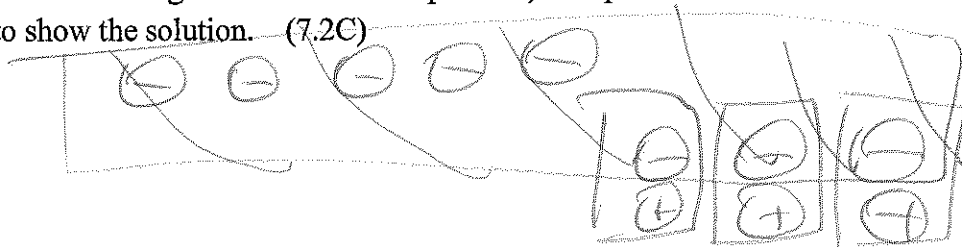
19. Using the number line below, use arrows to model the following expression (7.2C)

$$-3 + (+4)$$



20. Draw a model using the circles (shaded for negative and white for positive) to represent the following equation. Use zero pairs to show the solution. (7.2C)

$$-5 - (-8)$$



21. If the temperature outside was  $23^{\circ}$  at 2 p.m. and dropped to  $-3^{\circ}$  by 6 p.m., what is the change in temperature? (7.2G)

$$23 - -3 = 26 \text{ drop change in temp}$$

22. Mr. Hammer received a notice from his employer that the cost of his health insurance will increase by 8%. If the new cost will be \$28.35 per month, what was the original monthly cost of his insurance? 7.4D

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23. Evaluate the expression below. (7.2E)

$$\begin{aligned} & 7(-5) + (-4 + -1) \\ & \cancel{7(-5)} + \cancel{(-4 + -1)} \\ & -35 + (-5) \\ & -40 \end{aligned}$$

24. Beth owns a small business. There was a loss of \$32 on Thursday and a loss of \$22 on Friday. On Saturday there was a loss of \$10 and on Sunday there was a profit of \$58. Find the total profit or loss and record on the bubble grid below. (7.2F)

		-	6	.		
0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

$-32$  Thurs.  
 $-22$  Fri.  
 $-10$  Sat  
 $+58$  Sun  


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 $-6$

25. Use the pattern shown in the table.

x	y
0	0
1	-2
2	-4
3	-6
4	-8

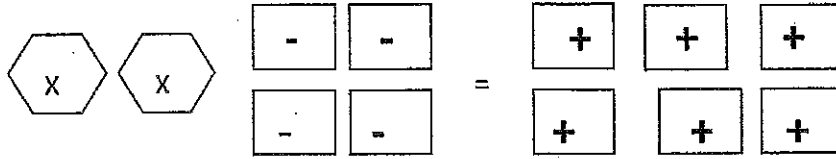
By which rule can you get the value of y from the value of x?

- A. Multiply the value of x by 2.
- B. Multiply the value of x by -2.
- C. Subtract 3 from x.
- D. Multiply the value of x by 2, then add -4.

Is the above relationship a proportional one? If so, what is the constant rate of change?

Yes, constant rate of change = -2

26. The model represents the equation  $2x - 4 = 6$ .  $\boxed{+} = 1$   $\boxed{-} = -1$



What is the value of x?

$x = 5$

Not on test

5. Which rule will generate each collection of C's from the day number?

Day 1	Day 2	Day 3
C	C	C
C	C	C
C	C	C
	C	C
	C	C
		C
		C
		C
		C
		C
		C
		C
		C
		C

3      5      7

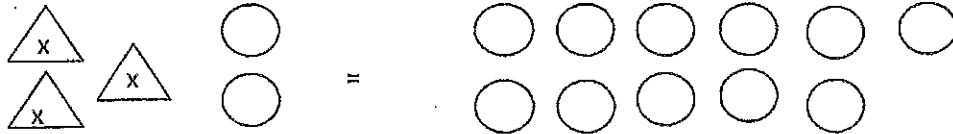
- A. Multiply day number by 2, then add 1.
- B. Add 2 to each day number.
- C. Square the day number, then add 2.
- D. Add 1 to the amount on the previous day.

27. There are 250 students going on a field trip. Each bus will hold 30 students. Which equation would help you find  $x$ , the number of buses needed for the field trip?

- A.  $x + 30 = 250$
- B.  $30(250) = x$
- C.  $x \div 30 = 250$
- D.  $30x = 250$

$250 \div 30 = \text{Buses}$

7. The model below represents the equation  $3x + 2 = 11$ .  $\bigcirc = 1$   $\bullet = -1$



What is the first step in finding the value of x?

- A. Subtract 2 from each side
- B. Add 2 to each side
- C. Subtract 11 from each side
- d. Divide by 3 on each side

Not on test

28. The table shows the number of strips of yarn to be pulled through each square inch of fabric to make a rug.

Fabric, $f$ (square inches)	Strips of Yarn, $y$
2 $\times 12$	24
4 $\times 12$	48
6 $\times 12$	72
8 $\times 12$	96

Which expression best represents the number of inches of strips of yarn,  $y$ , and the number of inches of fabric,  $f$ ?

- A.  $f + 22$
- B.  $24 - f$
- C.  $2y$
- D.  $12f$

Is the relationship above an additive or multiplicative relationship?

Is it a proportional relationship? If so, what is the constant of proportionality?

yes, 12

28. Cameron was born on December 21, 1988. Julie was born on December 21, 1991. Complete the table based on this information.

Cameron's age	Julie's age
8	5 96
9	6
10	7
11	8

Is the relationship comparing Cameron's and Julie's birthdays as represented in the table above an additive or multiplicative relationship?



29. There are 60 minutes in 1 hour. Which equation could be used to calculate the number of minutes,  $m$ , in  $h$  hours.

- A.  $m = 60h$
- B.  $m = 60 \div h$
- C.  $m = h \div 60$
- D.  $h = m \div 60$

$$\frac{\text{min}}{h} = \frac{60}{1}$$

Is this an additive or multiplicative relationship?

Is it a proportional relationship, and if so, what is the constant of proportionality?

yes. 60/1

30. Which equation represents the  $y$ -values in terms of the  $x$ -values?

$x$	$y$
2	7
4	13
6	19
8	25

- A.  $y = x + 5$
- B.  $y = 2x + 3$
- C.  $y = x - 5$
- D.  $y = 3x + 1$

Is this an additive or multiplicative relationship?

Is it a proportional relationship, and if so, what is the constant of proportionality?