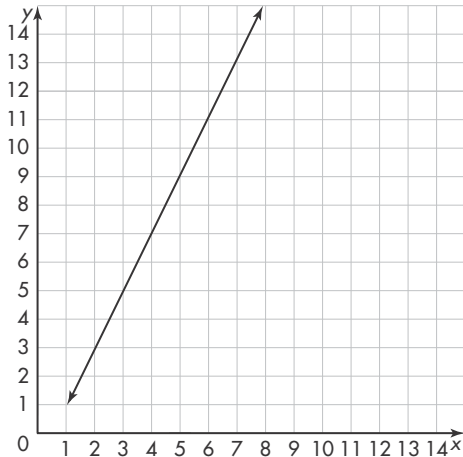


Name _____

1. Draw lines to match each expression on the left with its value on the right. **1 point**

$[3^2 \times (2.4 \div 4)] + 1.7$	39.1
$8.8 + \left(\frac{1}{5} \times 5 + 2.6\right)$	7.1
$(6.7 - 5.6) \times 2^3 + 7.5$	16.3
$(3.3 + 6 \times 1.8) + 5^2$	12.4

2. Which equation represents the graph below? **1 point**



- (A) $y = 2x - 2$ (C) $y = 2x - 1$
 (B) $y = 3x - 1$ (D) $y = x - 1$

3. Select each expression that is equivalent to $\frac{3}{16}$ if $x = \frac{3}{4}$. **1 point**

- $2x + \frac{1}{16}$
 $x^2 - \frac{6}{16}$
 $\left(\frac{3}{8}\right)^2 \div x$
 $x - \frac{1}{4}$
 $2x - x^2 - \frac{3}{4}$

4. Last month, Tara worked 16.5 hours the first week, 19 hours the second week, 23 hours the third week, and 15.75 hours the fourth week. She plans to work more hours this month than last month. Write an inequality to represent the number of hours, h , Tara plans to work this month. **1 point**

$h > 74.25$

5. Jacy paid \$15.48 to download 12 songs last month. She paid the same amount for each song.

Part A 1 point

Let s represent the amount that Jacy paid for each song she downloaded. Write a multiplication equation that you could use to find the value of s .

$12s = 15.48$

Part B 1 point

Explain how you can use inverse relationships to solve this problem.

Sample answer: Undo 12 times s by dividing both sides of the equation by 12.

Part C 1 point

How much did Jacy pay to download each song?

$\$1.29$

6. For questions 6a–6e, choose Yes or No to tell if 2 is the greatest common factor (GCF) of the pair of numbers.

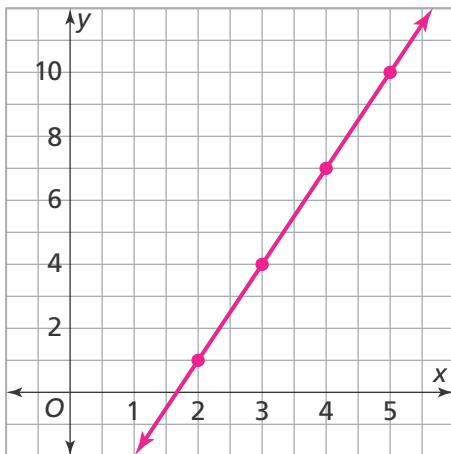
- 6a. 16, 30 Yes No
- 6b. 26, 38 Yes No
- 6c. 12, 28 Yes No
- 6d. 22, 34 Yes No
- 6e. 24, 32 Yes No

1 point

7. Complete the table for the equation $y = 3x - 5$. Then graph the ordered pairs on the coordinate plane, and draw the line that the equation represents. **3 points**

x	y
2	1
3	4
4	7
5	10

Sample answers given.



8. Which expression is **NOT** equal to 28? **1 point**

- (A) $1,288 \div 46$
- (B) $1,820 \div 65$
- (C) $1,456 \div 52$
- (D) $1,107 \div 41$

9. Draw lines to match each pair of numbers on the left to the least common multiple (LCM) of the numbers on the right. **1 point**

2 and 10	—	10
3 and 12	—	24
8 and 12	—	40
4 and 10	—	12
8 and 10	—	20

10. Select each expression that is equivalent to $18x + 3$. **1 point**

- $6\left(3x + \frac{1}{2}\right)$
- $9\left(2x + \frac{1}{3}\right)$
- $4(4x + 1) - 1$
- $2(9x + 5) - 7$
- $3(6x + 2) + 3$

11. Ethan's dad is five years younger than four times Ethan's age, a . Write an algebraic expression that represents the age of Ethan's dad. **1 point**

$4a - 5$

12. Solve the equation. **1 point**

$$\frac{2}{3}x = 2\frac{2}{5}$$

(A) $x = 1\frac{3}{5}$

(B) $x = 2\frac{2}{5}$

(C) $x = 3\frac{1}{5}$

(D) $x = 3\frac{3}{5}$

13. Select all the equations that have $x = 17$ as the solution. **1 point**

$73 + x = 80$

$11 = x - 6$

$4x = 68$

$47 + x = 64$

$x \div 8 = 136$

14. Which table represents the ratio below? **1 point**

$\frac{3 \text{ rotten apples}}{15 \text{ fresh apples}}$

(A)

Rotten Apples	15	25	35
Fresh Apples	3	5	7

(B)

Rotten Apples	15	25	35
Fresh Apples	3	6	9

(C)

Rotten Apples	3	6	9
Fresh Apples	15	25	35

(D)

Rotten Apples	3	5	7
Fresh Apples	15	25	35

15. The bar diagram below represents the ratio of points scored by the home team and the visiting team in a basketball game.

Home team

--	--	--	--	--	--	--	--

Visiting team

--	--	--	--	--

Part A 1 point

How many points did the visiting team score if the home team scored 84 points?

60 points

Part B 1 point

Explain how you used the bar diagram to solve Part A.

Sample answer: The home-team points, 84, divided by 7 boxes in the diagram is 12, so each box represents 12. Multiply to find the visiting team's points, 5 boxes \times 12 = 60.

16. Steve sold 36 fruit baskets for a school fundraiser. Evie sold 25% of the number of baskets that Steve sold. How many fruit baskets did Evie sell? **1 point**

9 fruit baskets

17. Peter wants to buy a coat that costs \$87 at full price. The coat is now on sale for 40% off.

Part A 1 point

Explain how Peter can use the fact that 10% of \$87 is \$8.70 to find the amount he will save on the coat.

40% is $4 \times 10\%$, so he will save $4 \times \$8.70$, or \$34.80.

Part B 1 point

Use the same method to find the amount Peter would save on a \$64 coat that is on sale for 30% off.

10% of \$64 is \$6.40, so he would save $3 \times \$6.40$, or \$19.20.

18. Draw lines to match each measurement on the left with an equivalent measurement on the right. **1 point**

24 tsp	12 tbsp
6 fl oz	16 qt
8 pt	8 tbsp
4 gal	24 fl oz
3 c	16 c

(Note: Lines connect 24 tsp to 16 qt, 6 fl oz to 24 fl oz, and 3 c to 16 c. The other options are not connected.)

19. Dan read 104 pages of his book. He has 68% of his book left to read. How many pages are in his book? Explain. **2 points**

325 pages; Dan read $100\% - 68\% = 32\%$ of the pages. $104 \div 0.32 = 325$.

20. Kevin correctly answered 75% of 32 test questions.

Part A 1 point

How many questions did Kevin answer correctly?

24 questions

Part B 2 points

How many more questions would Kevin have had to answer correctly to get more than 80% correct? Explain.

2 more questions; 25 correct is $\approx 78\%$. 26 correct is $\approx 81\%$.

21. Select all of the measurements that are equivalent to 528 meters. **1 point**

- 52,800 cm
- 528,000 km
- 5,280 cm
- 528,000 mm
- 0.528 km

22. Sheila is biking at a constant speed. She travels 54 meters in 9 seconds.

Part A 1 point

How many meters per second does Sheila travel?

6 meters per second

Part B 1 point

How long would it take Sheila to travel 90 meters at this speed?

15 seconds

23. Pat and Rick are sales associates at a store. Pat makes 2 sales for every 3 customers that he helps. Rick makes 3 sales for every 4 customers that he helps.

Part A 1 point

Complete the ratio tables.

Pat		Rick	
Sales	Customers	Sales	Customers
2	3	3	4
4	6	6	8
6	9	9	12
8	12	12	16

Part B 2 points

Does Pat or Rick have a better ratio of sales to customers? Explain.

Rick; The tables show that for 12 customers Rick makes 9 sales, but Pat only makes 8 sales.

24. Choose a number from the box to complete each conversion. **1 point**

7.6	9.3	11.8
12.7	16.4	17.6

5 in. = **12.7** cm

8 kg \approx **17.6** lb

8 qt \approx **7.6** L

25. Susan can buy 6 flower seed packets for \$2. If all the seed packets cost the same amount of money, how many packets can Susan buy for \$10? **1 point**

- (A) 12 packets
- (B) 20 packets
- (C) 24 packets
- (D) 30 packets

26. A department store has 950 customers one day, and 82% of customers made a purchase. Of the customers who made a purchase, 528 bought just one item, 186 bought two items, and the remainder bought three or more items. How many customers bought three or more items? Explain.

2 points

65 customers; The customers who made a purchase: $950 \times 0.82 = 779$. Those who bought three or more items: $779 - 528 - 186 = 65$.

27. Cary earned \$56 for 7 hours of babysitting.

Part A 1 point

What is Cary's unit rate for babysitting?

\$8 per hour

Part B 1 point

At this rate, how much would Cary earn for 55 hours of babysitting?

\$440

28. At Brown Elementary School, 80% of all fifth graders ride the bus to school. If 124 fifth graders ride the bus to school, how many fifth graders are there at the school? **1 point**

155 fifth graders

29. Mrs. Allan's car uses 8 gallons of gas for a 224-mile trip. Mrs. Owen's car uses 6 gallons of gas for a 210-mile trip.

Part A 1 point

What are the unit rates for each car's gas usage?

Mrs. Allan's car: $\frac{28 \text{ miles}}{1 \text{ gallon}}$

Mrs. Owen's car: $\frac{35 \text{ miles}}{1 \text{ gallon}}$

Part B 1 point

Whose car has better gas mileage?

Mrs. Owen's car

Part C 2 points

At these rates, how many gallons of gas would each car use if both cars traveled 560 miles? Explain.

**Mrs. Allan's car: 20 gal;
Mrs. Owen's car: 16 gal;
Sample answer: Divide 560 by the number of miles each car gets per gallon.**

30. A store sells packs of 3 mini-pizzas for \$5.

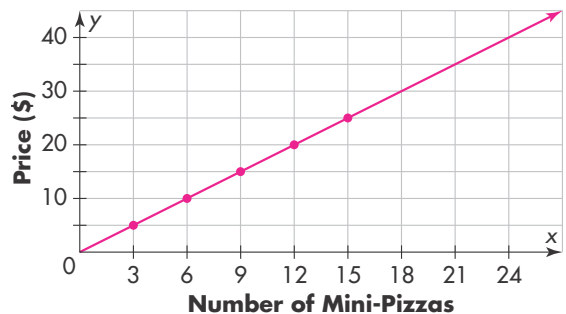
Part A 1 point

Complete the ratio table to show the price for up to 15 mini-pizzas.

Mini-Pizzas	3	6	9	12	15
Price (\$)	5	10	15	20	25

Part B 1 point

Plot the data from the table on the coordinate plane. Then draw a line to show the cost of more mini-pizzas.



Part C 1 point

How much would 24 mini-pizzas cost?

\$40