

Name: Answer Key Class: \_\_\_\_\_ Date: \_\_\_\_\_

**Semester I Study Guide - Practice Test**

What property supports each statement?

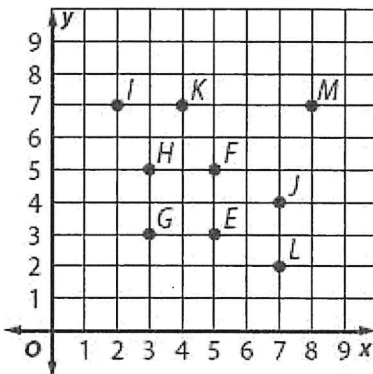
1.  $(5 + 3) + 7 = 5 + (3 + 7)$

Associative Property  
of Addition

2.  $4 \cdot 1 = 4$

Multiplicative Identity

Refer to the coordinate plane.



3. Choose the point for the ordered pair  $(5, 3)$ .

**E**

4. Which ordered pair names point K?

**$(4, 7)$**

Refer to the table.

$x$	12	16	20	24
$y$	0	4	8	12

5. Which ordered pair would appear in a graph of the data?

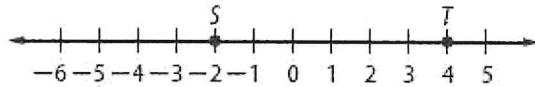
**$(12, 0)$   $(16, 4)$   $(20, 8)$   $(24, 12)$**

6. Which rule represents the data in the table?

**$x - 12$**

**Semester I Study Guide - Practice Test**

7. Which integer represents point  $S$  on the number line?



$-2$

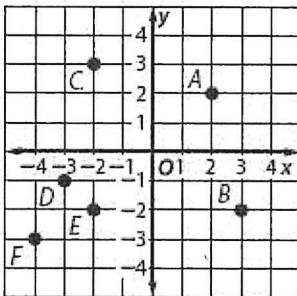
8. A whale dives towards deeper water at a rate of 6 feet per second. It continues for a total of 20 seconds. Which expression represents this situation?

$20(-6)$

9. Lupe is 49 feet underground touring a cavern. She climbs 18 feet up a ladder. What is her new location?

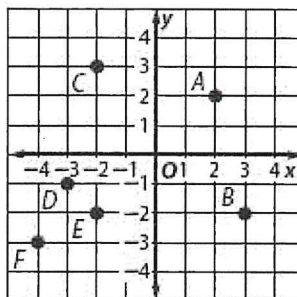
31 feet under ground

10. Which point is located at  $(-4, -3)$ ?



$F$

11. Which point(s) in the coordinate plane are located in Quadrant II?



$C$

**Semester I Study Guide - Practice Test**

12. What is the value of  $\frac{-12}{a}$  if  $a = -4$ ?

3

13. Which decimal is equivalent to  $-\frac{2}{9}$ ?

-0. $\overline{2}$

14. Which fraction is equivalent to  $2\frac{3}{4}$ ?

$\frac{11}{4}$

15. How many minutes are equal to  $\frac{1}{3}$  hour?

20 minutes

16. What is the quotient of  $\frac{3}{2} \div \frac{2}{3}$ ?

$\frac{9}{4}$  or  $2\frac{1}{4}$

17. How many  $\frac{3}{4}$ -cup of juice can be poured from 6 cups of juice?

8 cups

18. What is the difference  $\frac{5}{6} - \frac{1}{3}$ ?

$\frac{1}{2}$

19. What is the value of  $w^3$  if  $w = 5$ ?

125

20. Find  $\sqrt{196}$ .

14

21. What is  $6.13 \times 10^{-3}$  in standard form?

0.00613

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22. The population of Ida county is 7,500 people. Express this number in scientific notation.

$$7.5 \times 10^3$$

23. Which expression uses a negative exponent to represent  $\frac{1}{3^4}$ ?

$$3^{-4}$$

24. Which expression is equivalent to  $b^{-4}$ ?

$$\frac{1}{b^4}$$

25. Which fraction represents the ratio 3 roosters out of 10 chickens in simplest form?

$$\frac{3}{10}$$

26. Which rate has the same unit rate as 300 words in 4 minutes?

$$75 \text{ words per minute}$$

27. Find  $m \cdot m^4$ .

$$m^5$$

28. Alana buys 3 pounds of potatoes for \$2.82. What is the unit price of the potatoes?

$$94¢ \text{ per pound}$$

- ~~29. Which set of numbers is proportional?~~

30. At the same time a 6-foot person casts a 2-foot shadow, a nearby flagpole casts a 10-foot shadow. How tall is the flagpole?

$$30 \text{ feet}$$

31. Chad jogs  $4\frac{2}{5}$  miles in  $\frac{1}{2}$  hour. What is his average speed in miles per hour?

$$8\frac{4}{5} \text{ miles per hour}$$

32. Which proportion can be used to find what number is 15% of 280?

$$\frac{x}{280} = \frac{15}{100}$$

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33. Nine is what percent of 30?

30%

34. If Karen scores 6 goals out of 15 attempts, what percent of her attempts result in a score?

40%

35. What percent 210 is of 360?

58.3%

36. What is 20% of 95?

19

37. If 30% of a number is 15, what is 25% of the number?

12.5

~~38. Which situation represents a percent of decrease?~~

39. Mei buys a suit marked \$60. She receives a 25% discount. Which equation can be used to find the sale price of the suit?

\$45

40. A runner ran 25 miles last week and 15 miles this week. What is the percent of change? Identify the percent of change as an increase or decrease.

40% decrease

41. Fiona deposited \$900 in the bank over 2 years. She earned \$60 in simple interest at the end of the 2 years. What was the annual interest rate?

3.3%

42. Katarina plans to borrow \$600 at 3% over 5 years. What amount of simple interest should she expect to pay?

\$90

43. An investment of \$1000 is compounded annually at 8%. What is the total amount of money after 2 years?

\$1,166.40

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**Semester I Study Guide - Practice Test**

44. What is the percent of change from 14 inches of snowfall to 35 inches of snowfall? Then tell whether it is an increase or decrease.

150% Increase

45. A store makes a profit of \$8 on a sweater after a markup of 40%. What is the selling price of the sweater?

\$28

Identify all sets to which each number belongs.

46.  $\frac{50}{25}$

N, W, Z, Q

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

Z, Q

48.  $\pi$

Irrational

49. -5.075

Q

50.  $-3.\bar{8}$

Q