

Name _____

What is the slope of a line passing through points $(-7,5)$ and $(5,-3)$?

- 1
- (1) $-\frac{3}{2}$ (3) $\frac{2}{3}$
(2) $-\frac{2}{3}$ (4) $\frac{3}{2}$

2 A teacher asked the class to solve the equation $3(x + 2) = 21$. Robert wrote $3x + 6 = 21$ as his first step. Which property did he use?

- (1) associative property (3) distributive property
(2) commutative property (4) zero property of addition

3 Which relationship can best be described as causal?

- (1) The alarm goes off and the sun rises.
(2) The car is moving slowly and the driver is singing.
(3) The snow is falling and the stores run out of snow shovels.
(4) The birds are chirping and the rain is coming down.

4 The function $h(t) = -16t^2 + 144$ represents the height, $h(t)$, in feet, of an object from the ground at t seconds after it is dropped. A realistic domain for this function is

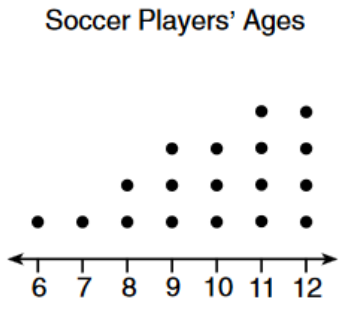
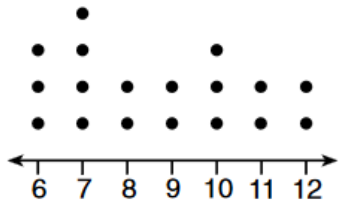
- (1) $-3 \leq t \leq 3$ (3) $0 \leq h(t) \leq 144$
(2) $0 \leq t \leq 3$ (4) all real numbers

5 The formula for the area of a trapezoid is $A = \frac{1}{2}h(b_1 + b_2)$. Express b_1 in terms of A , h , and b_2 .

The area of a trapezoid is 60 square feet, its height is 6 ft, and one base is 12 ft. Find the number of feet in the other base.

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- 6 Noah conducted a survey on sports participation. He created the following two dot plots to represent the number of students participating, by age, in soccer and basketball.



Which statement about the given data sets is correct?

- (1) The data for soccer players are skewed right.
- (2) The data for soccer players have less spread than the data for basketball players.
- (3) The data for basketball players have the same median as the data for soccer players.
- (4) The data for basketball players have a greater mean than the data for soccer players.

- 8 Officials in a town use a function, C , to analyze traffic patterns. $C(n)$ represents the rate of traffic through an intersection where n is the number of observed vehicles in a specified time interval. What would be the most appropriate domain for the function?

- (1) $\{\dots, -2, -1, 0, 1, 2, 3, \dots\}$
- (2) $\{-2, -1, 0, 1, 2, 3\}$
- (3) $\left\{0, \frac{1}{2}, 1, 1\frac{1}{2}, 2, 2\frac{1}{2}\right\}$
- (4) $\{0, 1, 2, 3, \dots\}$

- 9 Analysis of data from a statistical study shows a linear relationship in the data with a correlation coefficient of -0.524 . Which statement best summarizes this result?

- (1) There is a strong positive correlation between the variables.
- (2) There is a strong negative correlation between the variables.
- (3) There is a moderate positive correlation between the variables.
- (4) There is a moderate negative correlation between the variables.

- 10 John has four more nickels than dimes in his pocket, for a total of \$1.25. Which equation could be used to determine the number of dimes, x , in his pocket?

- (1) $0.10(x + 4) + 0.05(x) = \1.25
- (2) $0.05(x + 4) + 0.10(x) = \1.25
- (3) $0.10(4x) + 0.05(x) = \$1.25$
- (4) $0.05(4x) + 0.10(x) = \$1.25$

- 11 Boyle's Law involves the pressure and volume of gas in a container. It can be represented by the formula $P_1V_1 = P_2V_2$. When the formula is solved for P_2 , the result is

- (1) $P_1V_1V_2$
- (2) $\frac{V_2}{P_1V_1}$
- (3) $\frac{P_1V_1}{V_2}$
- (4) $\frac{P_1V_2}{V_1}$