

Lesson 7: Patterns, Functions, and Algebra

Directions: Read each question carefully. Darken the circle for the correct answer, or write your answer in the space provided.

Try This

You can study the table to describe the algebraic relationship it displays. Or you can use guess-and-check to eliminate incorrect answer choices.

Sample

Which equation fits the data in the table below?

x	1	2	3	4
y	5	11	17	23

- (A) $x + y = 6$
- (B) $y - 6x = 1$
- (C) $x = 6y - 1$
- (D) $y = 6x - 1$

Think It Through

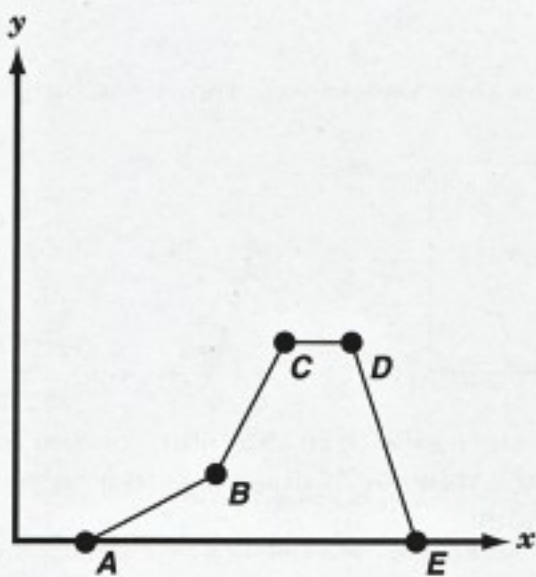
Pick a pair of (x, y) values and check to see which equations it fits.

Eliminate incorrect answer choices in this way. Then, check the other pairs of (x, y) values on the equations that remain. The correct choice is D, $y = 6x - 1$.



- 1 On which of these segments is the slope greatest?

- (A) \overline{AB}
- (B) \overline{BC}
- (C) \overline{CD}
- (D) \overline{DE}



- 2 What is the solution for the equation in the box below?

$$5x + 11 = 9$$

- (F) $x = 4$
- (G) $x = 0.4$
- (H) $x = -0.4$
- (J) $x = -10$

- 18** Daphne and Zack are interested in investing money with Apple Tree Savings Bank. Depending on how much money you can invest, the bank offers different interest rates. The chart explains the different interest rates.

Amount Invested	Annual Interest Rate
Less than \$500	4.0%
\$500 or more but less than \$1,000	4.25%
\$1,000 or more but less than \$20,000	5.25%
\$20,000 or more	5.5%



Part A

How much interest would be earned in one year on a \$24,000 investment at this bank?

Part B

Suppose Daphne has \$19,000 to invest. How much more interest could she earn by investing \$20,000 instead of \$19,000? Show the steps you used to determine your answer.

Part C

Zack thinks a \$400 investment would be worth \$448 after three years. Do you agree? On the lines below, provide an explanation of your answer.



Part 1

Directions: For Numbers 1 through 25, darken the circle for the correct answer.

1 $7 - -9 =$

- (A) 16
- (B) 2
- (C) -2
- (D) -16
- (E) None of these

2 $\sqrt{25 + 12^2} =$

- (F) 7
- (G) 11
- (H) 17
- (J) 37
- (K) None of these

3 $12 \div \frac{3}{4} =$

- (A) 9
- (B) $11\frac{1}{4}$
- (C) 13
- (D) 16
- (E) None of these

4 $0.9 - 0.09 =$

- (F) 0.99
- (G) 0.91
- (H) 0.81
- (J) 0.80
- (K) None of these