

Answer on Question #56020 – Math – Algebra

11. Let $y = 3t + 6$ be a linear function representing the distance from home for an ant t minutes after starting out from a location near its home. What does the number 3 represent in this function?

- A: The ant is 3 feet from its home after t minutes.
- B: The ant started out 3 feet from its home.
- C: The ant is crawling at 3 feet per minute.
- D: The ant is moving 3 feet every 6 minutes.

Solution

The formula is $s(t) = s_0 + vt$, so the number 3 represent velocity (per minute) of this movement.

12. Let $y = 3t + 6$ be a linear function representing the distance from home for an ant t minutes after starting out from a location near its home. What does the number 6 represent in this function?

- A: The ant is 6 feet from its home after t minutes.
- B: The ant started out 6 feet from its home.
- C: The ant is moving at 6 feet per minute.
- D: The ant is moving 6 feet every 3 minutes.

Solution

The formula is $s(t) = s_0 + vt$. So number 6 is the initial deviation from the (0;0) point.

13. Which of the following is the equation of a line parallel to the line $y = 4x + 1$, passing through the point (5,1)?

- A: $4x + y = -19$
- B: $4x - y = 19$
- C: $-4x - y = 19$
- D: $4x + y = 19$

Solution

The slope of new line must be the same, as in $y_1 = 4x + 1$. So $k_2 = k_1 = 4$.

$y_2 = 4x + b$. Because of y_2 is passing through the point (5,1): $1 = 4 \cdot 5 + b \Rightarrow b = -19$

$$y_2 = 4x - 19$$

Answer: 11: C; 12: A; 13: B.