

1. The slope of the line passing through (5,5) is $\frac{5}{6}$. All of the following points could be on the line except

- A. (2.5, 2) B. (11, 10) C. (8, 7.5) D. (-1, 0) E. (-7, -5)
-

2. What is the average of four tenths and five thousandths?

- A. 25002 B. 2502 C. 0.225 D. 0.2025 E. 0.02025

3. If $\frac{x}{y}$ is an integer, which of the following statements must be true?

- A. both x and y are integers
B. x is an integer
C. either x or y is negative
D. y/x is an integer
E. $x = ny$ where n is an integer

4. If $y \# x = y^{2x}$ for all positive integers, then $(3 \# 4) \# 2 =$

- A. 3^8 B. 3^{12} C. 3^{16} D. 3^{24} E. 3^{32}

5. $(3x + 2)(2x - 5) = ax^2 + kx + n$. What is the value of $a - n + k$?

- A. 5 B. 8 C. 9 D. 10 E. 11

1. The slope of the line passing through (5,5) is $\frac{5}{6}$. All of the following points could be on the line except

- A. (2.5, 2) B. (11, 10) C. (8, 7.5) D. (-1, 0) E. (-7, -5)

write eq of this line:

$$y - 5 = \frac{5}{6}(x - 5)$$

$$y - 5 = \frac{5}{6}x - \frac{25}{6}$$

$$y = \frac{5}{6}x - \frac{25}{6} + 5$$

Now find which point doesn't make this eq. true

$$(2.5, 2)$$

when $x = 2.5$ y should be ≈ 2.9167

2. What is the average of four tenths and five thousandths?

- A. 25002 B. 2502 C. 0.225 D. 0.2025 E. 0.02025

$$\frac{0.4 + 0.005}{2} = \frac{0.405}{2} = 0.2025$$

3. If $\frac{x}{y}$ is an integer, which of the following statements must be true?

- ☒ A. both x and y are integers would be true if x is an integer; $y = \frac{1}{2}$
☒ B. x is an integer would be true if $x = \frac{1}{2}$ and $y = \frac{1}{4}$
☒ C. either x or y is negative an integer could be pos or neg so signs aren't important
☒ D. y/x is an integer if $y = 2$ & $x = 4$ then $\frac{x}{y}$ is an integer but $\frac{y}{x}$ isn't.
☒ E. $x = ny$ where n is an integer

by process of elimination this is the answer

also, if $\frac{x}{y} = \text{integer}$ then multiplying both sides by y gives this eq. $x = y(\text{integer})$

4. If $y \# x = y^{2x}$ for all positive integers, then $(3 \# 4) \# 2 =$

- A. 3^8 B. 3^{12} C. 3^{16} D. 3^{24} E. 3^{32}

$$(3 \# 4) = 3^{2(4)} = 3^8$$

$$(3^8) \# 2 = (3^8)^{2(2)} = (3^8)^4 = 3^{32}$$

5. $(3x+2)(2x-5) = ax^2 + kx + n$. What is the value of $a - n + k$?

- A. 5 B. 8 C. 9 D. 10 E. 11

$$(3x+2)(2x-5)$$

$$\begin{array}{r} 3x+2 \\ 2x \quad \boxed{\begin{array}{cc} 6x^2 & +4x \\ -15x & -10 \end{array}} \\ -5 \end{array}$$

$$ax^2 + kx + n$$

$$6x^2 - 11x - 10$$

$$a = 6$$

$$k = -11$$

$$n = -10$$

$$a - n + k$$

$$= 6 - (-10) - 11$$

$$= 16 - 11$$

$$= 5$$