

Bellwork Alg 2 Wednesday, February 13, 2019

1. If the perimeter of a square is 28, what is the length of the diagonal of the square?

- A. $2\sqrt{14}$ B. $7\sqrt{2}$ C. $7\sqrt{3}$ D. 14 E. $28\sqrt{2}$

2. If a is 63% of x and c is $\frac{3}{8}$ of x , which of the following is the closest equivalent of the ratio of a to c ?

- A. 0.006 B. 0.236 C. 0.381 D. 0.595 E. 1.680

3. Simplify. State restrictions on the variable.

$$\frac{4x^3 + 22x^2 + 30x}{16x^5 + 40x^4 - 144x^3 - 360x^2}$$

1. If the perimeter of a square is 28, what is the length of the diagonal of the square?

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perimeter of a sq = $4 \cdot s$

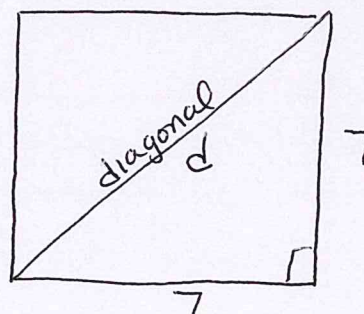
$28 = 4 \cdot s$

side = 7

$d^2 = 7^2 + 7^2 = 49 + 49$

$\sqrt{d^2} = \sqrt{98}$

$d = \sqrt{98} = \sqrt{49 \cdot 2} = 7\sqrt{2}$



2. If a is 63% of x and c is $\frac{3}{8}$ of x , which of the following is the closest equivalent of the ratio of a to c ?

- A. 0.006 B. 0.236 C. 0.381 D. 0.595 E. 1.680

$a = .63x$

$c = \frac{3}{8}x$

$$\frac{a}{c} = \frac{.63x}{\frac{3}{8}x} = \frac{.63}{3/8} = (.63) \left(\frac{8}{3} \right) = 1.68$$

3. Simplify. State restrictions on the variable.

$4x^3 + 22x^2 + 30x$

$2x(2x^2 + 11x + 15)$

$\begin{array}{c} 30 \\ 5 \times 6 \\ 11 \end{array}$

$\begin{array}{c} x+3 \\ 2x \quad 2x^2 + 6x \\ +5 \quad +5x + 15 \end{array}$

$\frac{4x^3 + 22x^2 + 30x}{16x^5 + 40x^4 - 144x^3 - 360x^2}$

$\frac{2x(x+3)(2x+5)}{8x^2(x+3)(x-3)(2x+5)}$

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

$x \neq 0, \pm 3, -5/2$

$16x^5 + 40x^4 - 144x^3 - 360x^2$

$8x^2(2x^3 + 5x^2 - 18x - 45)$

$\begin{array}{c} 2x+5 \\ x^2 \quad 2x^3 + 5x^2 \\ -9 \quad -18x - 45 \end{array}$