Alg 2 Bellwork Monday, February 11, 2019

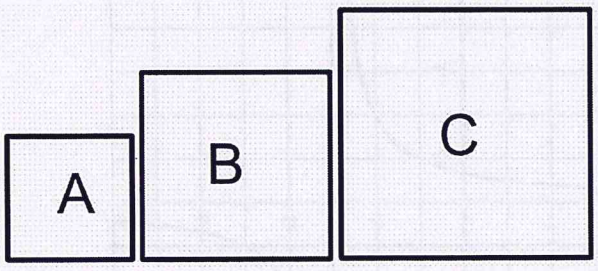
1. Simplify without a calculator. Give answer as an improper fraction in reduced form.

$$\frac{48}{42} \div \frac{72}{35}$$

2. Find the EXACT solution without using a calculator.

$$\frac{5x}{8} - \frac{13}{12} + \frac{3x}{4} = \frac{7x}{6}$$

3. In the figure below, the perimeter of square A is $\frac{2}{3}$ the perimeter of square B, and the perimeter of square B is $\frac{2}{3}$ the perimeter of square C. If the area of square A is 16, what is the area of square C?



A) 24 B) 36 C) 64 D) 72 E) 81

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ANSWERS

1. Simplify without a calculator. Give answer as an improper fraction in reduced form.

$$\frac{48}{42} \div \frac{72}{35} \rightarrow \frac{48}{42} \cdot \frac{35}{72} = \frac{2}{6} \cdot \frac{5}{3} = \frac{1}{3} \cdot \frac{5}{3} = \frac{5}{9}$$

(÷24, ÷7, ÷7, ÷24, ÷2, ÷2)

2. Find the EXACT solution without using a calculator.

$$24 \cdot \left(\frac{5x}{8} - \frac{13}{12} + \frac{3x}{4}\right) = \left(\frac{7x}{6}\right) \cdot 24$$

$$15x - 26 + 18x = 28x$$

$$33x - 26 = 28x$$

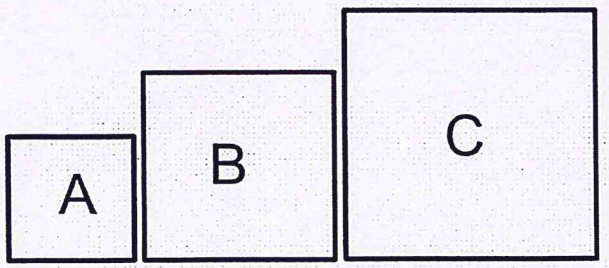
$$-28x \quad -28x$$

$$5x - 26 = 0$$

$$+26 \quad +26$$

$$\frac{5x}{5} = \frac{26}{5} \rightarrow x = \frac{26}{5}$$

3. In the figure below, the perimeter of square A is $\frac{2}{3}$ the perimeter of square B, and the perimeter of square B is $\frac{2}{3}$ the perimeter of square C. If the area of square A is 16, what is the area of square C?



A) 24 B) 36 C) 64 D) 72 E) 81

side length Sq A $= \sqrt{16} = 4$

perimeter of Sq A $= 4(4) = 16$

$\frac{3}{2} \cdot 16 = \frac{2}{3} B \cdot \frac{3}{2}$

perimeter of Sq B $= 24$

$\frac{3}{2} \cdot 24 = \frac{2}{3} C \cdot \frac{3}{2}$

perimeter of Sq C $= 36$

side length of Sq C $= \frac{36}{4} = 9$

Area of Sq C $= (9)^2 = 81$