

Key

Quiz 8

This is a two-stage quiz. During the first stage, use your knowledge & calculator to take this quiz. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have 15 min. to write one solution (with everyone's name on it!) to be turned in for the group. Show your work as you would for a colleague. Partial credit requires reasonable support.

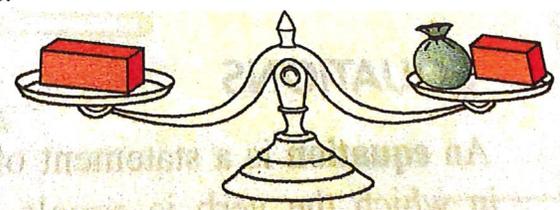
1. [2] Let a be a non-zero integer. Perform the division & put the answer in lowest terms.

$$\frac{6a}{a+2} \div \frac{4a^3}{5} = \frac{6a}{a+2} \cdot \frac{5}{4a^3} = \frac{30a}{(a+2)4a^3} \quad (+1)$$

$$\frac{30 \cancel{a}}{(a+2) \cdot 4 \cdot \cancel{a} \cdot a^2} = \frac{30}{4a^2(a+2)} = \frac{2 \cdot 15}{2 \cdot 2a^2(a+2)} = \frac{15}{2a^2(a+2)} \quad (+1) \text{ simplified}$$

2. Consider the scale shown to the right. One whole brick is balanced with $\frac{2}{3}$ of a brick and $\frac{3}{4}$ of a pound.

- (a) [2] Write an equation that captures the balance shown in the figure. Be sure to define any variables you use.



$$1b = \frac{2}{3}b + \frac{3}{4}$$

- (b) [2] Find the weight of one brick.

ie solve for b

$$1b = \frac{2}{3}b + \frac{3}{4} \Rightarrow \frac{1}{3}b = \frac{3}{4} \Rightarrow b = \frac{9}{4}$$

3. [3] Consider the three figures shown:

- (a) [2] How many total tiles are in the fifth figure?

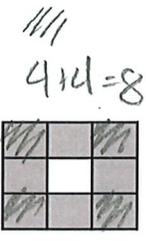


Figure 1

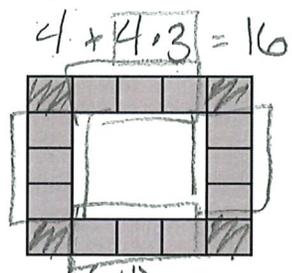


Figure 2

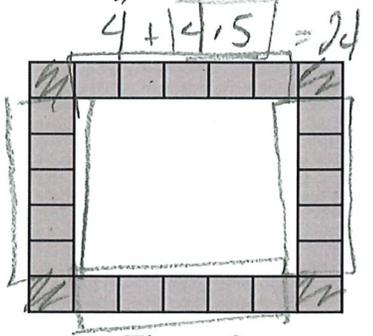


Figure 3

- (b) [2] Write an algebraic expression for the n th figure for the number of tiles.

$$\begin{aligned} \# \text{ of tiles} &= 4 + 4(\text{odd } \#) \\ &= 4 + 4(2n-1) \end{aligned}$$

There are lots of other answers eg $4(2n)$ or $8n$

Friction Activity #3

Scale (+1.5) Friction Activity #3

Extra Practice #25

Pattern (+1) counted tiles (+5)

#9, 1 #34

using n (+1.5)

translating pattern to general (+1) get it (+1.5)

fractions (+1) algebraic rules (+1.5)

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