

Grade 6 Equation Editor Practice

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A leaky faucet is losing water and is filling a 5-gallon bucket every 20 hours. At that rate, how many gallons of water will the faucet leak in 48 hours?

Show your work.

$$\frac{5 \text{ gallon bucket}}{20 \text{ hours}} = \frac{9}{48 \text{ hours}} = 12$$

$$5 \times 4 = 20$$

$$4 \overline{) 48}$$

Find the value of the expression.

$$24\frac{3}{5} + 4^3 \times \left(8\frac{1}{5} - 2\right)$$

Show your work.

$$24\frac{3}{5} + 4^3 \times (8\frac{1}{5} - 2)$$

$$24\frac{3}{5} + 4^3 \times 6\frac{1}{5}$$

$$24\frac{3}{5} + 64 \times 6\frac{1}{5}$$

$$24\frac{3}{5} + 396\frac{4}{5}$$

$$\boxed{421\frac{2}{5}}$$

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To convert a temperature from degrees Celsius to degrees Fahrenheit, the temperature in degrees Celsius is multiplied by 1.8, and then 32 is added to the product.

Write an expression that can be used to convert a temperature from degrees Celsius, C , to degrees Fahrenheit, and then use that expression to convert 25 degrees Celsius to degrees Fahrenheit.

Show your work.

Expression

$$1.8C + 32$$

$$\begin{array}{r} 25 \\ \times 1.8 \\ \hline 200 \\ 250 \\ \hline 450 \end{array}$$

$$\begin{array}{r} 45 \\ + 32 \\ \hline 77 \end{array}$$

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Michelle makes jewelry boxes containing drawers of equal size. The numbers of drawers in three different jewelry boxes and the corresponding total volumes of the drawers are shown in the table below.

JEWELRY BOXES

Number of Drawers	Total Volume (cubic inches)
2	5
3	7.5
4	10

Write an equation for the relationship between the number of drawers in the jewelry box, d , and the total volume of the drawers in the jewelry box, V . Use your equation to determine the number of drawers in a jewelry box with a total volume of 17.5 cubic inches.

Show your work.

Equation

$$2.5d = V$$

$$\begin{array}{r} 7 \\ 2.5 \overline{) 17.5} \\ \underline{17.5} \\ 0 \end{array}$$

Answer 7 drawers

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Jorge bought a crate of floor tiles for \$95.94. The crate had 6 boxes of floor tiles. Each box contained 20 floor tiles.

Write and solve an equation to determine the cost per box, b . Then write and solve a second equation to determine the cost per tile, t , to the nearest cent.

Show your work.

$$\begin{aligned} 95.94 \div 6 &= b \\ 95.94 \div 6 &= \boxed{15.99} \\ 15.99 \div 20 &= t \\ 15.99 \div 20 &= \boxed{0.80} \end{aligned}$$

Answer

$$\begin{array}{l} \$ \underline{15.99} \text{ per box} \\ \$ \underline{0.80} \text{ per tile} \end{array}$$

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Sebastian swam laps every day in the community swimming pool. He swam 45 minutes each day, 5 days each week, for 12 weeks. In that time, he swam 1,800 laps. What was his average rate in laps per hour?

Show your work.

$$\begin{array}{r} 12 \\ \times 5 \\ \hline 60 \text{ days} \\ \times 45 \\ \hline 300 \\ 2400 \\ \hline 2700 \text{ min.} \end{array}$$

$$\begin{array}{r} 45 \\ 60 \overline{) 2700} \\ \underline{-240} \downarrow \\ 300 \\ \underline{-300} \\ 0 \end{array}$$

45 hours

$$\begin{array}{r} 40 \\ 45 \overline{) 1800} \\ \underline{-180} \downarrow \\ 00 \end{array}$$

Answer 40 laps per hour

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A box in the shape of a right rectangular prism has a length of 8.5 inches, a width of 4.5 inches, and a height of 3.75 inches. What is the volume, in cubic inches, of the box? Do not round your answer.

Show your work.

$$\begin{array}{r} 3.75 \\ \times 8.5 \\ \hline 31.875 \end{array}$$

$$\begin{array}{r} 31.875 \\ \times 4.5 \\ \hline 143.4375 \end{array}$$

$$\begin{aligned} V &= lhw \\ V &= 8.5 \times 3.75 \times 4.5 \\ V &= 31.875 \times 4.5 \\ V &= 143.4375 \end{aligned}$$

Answer 143.4375 cubic inches

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Mr. Anderson drove 168 miles in $3\frac{1}{2}$ hours. He then drove the next $2\frac{1}{4}$ hours at a rate of 5 miles an hour faster than the first rate.

How many miles did Mr. Anderson drive during the $5\frac{3}{4}$ hours?

Show your work.

$$168 \div 3\frac{1}{2} = 48$$

$$\frac{168}{1} \div \frac{7}{2}$$

$$24 \overline{) 168} \cdot \frac{2}{71} = \frac{48}{1} = 48 \text{ mph}$$
$$\begin{array}{r} 48 \\ +5 \\ \hline 53 \text{ mph} \end{array} 2\frac{1}{4} = 119\frac{1}{4}$$

$$\begin{array}{r} 168.00 \\ +119.25 \\ \hline 287.25 \end{array}$$

Answer $287\frac{1}{4}$ miles
