

Solving equations and unit conversion quiz review

Answers are posted on the wiki (jeromealgebra1b.wiki.dublinschools.net) under Module 1 & 2

Solve each of the following:

<p>1. $8 - 4y = \frac{1}{3}(6y - 12)$</p> $8 - 4y = 2y - 4$ $8 - 6y = -4$ $-6y = -12$ $\boxed{y = 2}$	<p>2. $-\frac{3}{4}w + 1 = 13$</p> $4\left(-\frac{3}{4}w\right) = 12 \cdot 4$ $-3w = 48$ $\boxed{w = -16}$
<p>3. $-3(b-8) - 5 = 9(b+2) + 1$</p> $-3b + 24 - 5 = 9b + 18 + 1$ $-3b + 19 = 9b + 19$ $-3b = 9b$ $+3b \quad +3b$ $\frac{0}{12} = \frac{12b}{12} \quad \boxed{b = 0}$	<p>4. $\frac{1}{8}(5y + 64) = \frac{1}{4}(8 + 2y) + 3$</p> $\frac{5}{8}y + 8 = 2 + \frac{2}{4}y + 3$ $\frac{5}{8}y - \frac{2}{4}y = -8 + 2 + 3$ $\frac{5}{8}y - \frac{4}{8}y = -3$ $\frac{1}{8}y = -3 \quad \boxed{y = -24}$

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<p>3. $-3(b-8) - 5 = 9(b+2) + 1$</p>	<p>4. $\frac{1}{8}(5y + 64) = \frac{1}{4}(8 + 2y) + 3$</p>

Complete each of the following unit/rate conversion problems. You may need to refer to the unit conversions table on your graded homework:

<p>5. Convert the given measurements to the same unit, then order the measurements from shortest to longest: 88 in, $7\frac{1}{2}$ ft, $2\frac{1}{3}$ yard</p> <p>$2\frac{1}{3}$ yard, 88 in, $7\frac{1}{2}$ ft</p> <p>$7\frac{1}{2}$ ft $\cdot \frac{12 \text{ in}}{\text{ft}} = 90 \text{ in}$</p> <p>$\frac{7 \text{ yard}}{3} \cdot \frac{3 \text{ ft}}{1 \text{ yard}} \cdot \frac{12 \text{ in}}{1 \text{ ft}} = 84 \text{ in}$</p>	<p>6. A skydiver is falling at about 176 feet per second. How many feet per minute is the skydiver falling?</p> <p>$\frac{176 \text{ ft}}{\text{sec}} \cdot \frac{60 \text{ sec}}{1 \text{ min}} = 10,560 \frac{\text{ft}}{\text{min}}$</p>
<p>7. A pipe is leaking at 1.5 cups per day. About how many liters per week is the pipe leaking? (1 liter = 4.23 cups)</p> <p>$\frac{1.5 \text{ cups}}{\text{day}} \cdot \frac{1 \text{ liter}}{4.23 \text{ cups}} \cdot \frac{7 \text{ days}}{1 \text{ week}} = \frac{10.5 \text{ liters}}{4.23 \text{ wks}}$</p> <p>$= \frac{2.48 \text{ liters}}{\text{wk}}$</p>	<p>8. Joy bought 3 lbs of bananas. How many kilograms of bananas did she buy? How many ounces (oz) of bananas did she buy?</p> <p>$3 \text{ lb} \times \frac{1 \text{ kg}}{2.2 \text{ lb}} = 1.36 \text{ kg}$</p> <p>$3 \text{ lb} \times \frac{16 \text{ oz}}{1 \text{ lb}} = 48 \text{ oz}$</p>

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