

Error Analysis What is the error in the work?

71.

$$\begin{aligned} 12 - 3y &= 15 \\ -3y &= 3 \\ y &= -1 \end{aligned}$$

the negative sign was left off of the $3y$ after the 12 was moved. Thus, you would be dividing by -3 not 3. The answer should be $y = -1$

72.

$$\begin{aligned} \frac{m}{3} - 9 &= -21 \\ \frac{m}{3} - 9 + 9 &= -21 + 9 \\ 3 \cdot \frac{m}{3} &= -12 \\ m &= -4 \end{aligned}$$

the error was dividing by 3 to get -4 when the correct step was to multiply by 3. The answer should be $m = -36$

Solving Equations Quiz.

After you finish the quiz turn it in and pick up a 1/2 sheet with three problems to work on.

1. Beneath Earth's surface, the temperature increases 10°C every kilometer. Suppose that the surface temperature is 22°C , and at the bottom of a gold mine it is 45°C . Write and solve an equation to find the depth of the gold mine.

$$\begin{aligned} 22 + 10x &= 45 \\ x &= 2.3 \text{ km} \end{aligned}$$

What is a good name for this kind of equation? Multi-Step Equation

$$\begin{aligned} 2. \quad 7m + 8 - 2m + 13 &= 75 \\ 5m + 21 &= 75 \\ -21 & \quad -21 \\ 5m &= 54 \\ \frac{5m}{5} &= \frac{54}{5} \\ m &= 10.8 \end{aligned}$$

3. $6 - 2(Q + 8) - 9 + 5Q = 31$

$6 - 2Q - 16 - 9 + 5Q = 31$

$3Q - 19 = 31$

$3Q = 50$
 $\frac{3Q}{3} = \frac{50}{3}$

$Q = \frac{50}{3}$