

## Math 70 Quiz #7 Answers

1. (a) You can solve using the fractions, but I will solve by clearing the fractions first. Note: Your solution may look different than mine, but the answer should be the same.

$$\text{Multiply both sides by 12: } 12\left(\frac{3}{4}x\right) = 12\left(\frac{1}{3}x\right) + 12(5) \Rightarrow 9x = 4x + 60$$

$$\text{Subtract } 4x \text{ from both sides: } 5x = 60$$

$$\text{Divide both sides by 5: } \boxed{x = 12}$$

- (b) Again, you can solve this using the fractions, but I am going to clear the fractions first by multiplying by 5. Your solution may look different than mine, but the answer should be the same.

$$\text{Note that } \frac{y+3}{5} = y + 7 \text{ is equivalent to } \frac{y}{5} + \frac{3}{5} = y + 7$$

$$\text{Multiplying both sides by 5: } y + 3 = 5y + 35$$

$$\text{Subtracting } y \text{ from both sides: } 3 = 4y + 35$$

$$\text{Subtracting 35 from both sides: } -32 = 4y$$

$$\text{Dividing both sides by 4: } \boxed{-8 = y}$$

2. Multiplying both sides by  $r$ :  $Fr = mv^2$

$$\text{Divide both sides by } v^2: \boxed{\frac{Fr}{v^2} = m}$$

3. Subtracting  $8x$  from both sides:  $-2y = 12 - 8x$

$$\text{Dividing all terms by } -2: \boxed{y = -6 + 4x}$$

4. Unknown Number =  $x$

$$\text{Equation: } 12 + 3x = 37$$

Solving the equation:

$$\text{Subtract 12 from both sides: } 3x = 25$$

$$\text{Dividing both sides by 3: } x = \frac{25}{3} \text{ or } 8\frac{1}{3}$$

$$\boxed{\text{The number is } x = \frac{25}{3} \text{ or } 8\frac{1}{3}.$$