For each of these equations solve to find the value of x.

1. $37 = 5x + 7$
2. $54 = 6(x + 3)$
3. $9 = \frac{x}{2} + 5$
4. $\frac{x+7}{3} = 6$
5. $4(x-5) = x+1$
6. $5\left(\frac{x}{2} + 4\right) = 35$
7. $5(2x-3) - (4x+5) = 4(x-2)$
8. $4(3x-6) - 3(3x-7) = 2(x+3) - 2$

Challenge: create an equation for this problem and then solve it.
Bekzod makes model aircraft. He sells small scale aircraft for £25 and large scale aircraft for £40.
One week he sells 20 aircraft for a total of £590.
How many of each scale did he sell?

Answers:

1. $37 - 7 = 5x$
   $30 = 5x$
   $\frac{30}{5} = x$
   $x = 6$

2. $\frac{54}{6} = x + 3$
   $9 = x + 3$
   $9 - 3 = x$
   $x = 6$

3. $9 - 5 = \frac{x}{2}$
   $4 = \frac{x}{2}$
   $4 \times 2 = x$
   $x = 8$

4. $x + 7 = 6 \times 3$
   $x + 7 = 18$
   $x = 18 = 7$
   $x = 11$

5. $4x - 20 = x + 1$
   $4x - x = 1 + 20$
   $3x = 21$
   $x = \frac{21}{3}$
   $x = 7$

6. $\frac{x}{2} + 4 = \frac{35}{5}$
   $\frac{x}{2} + 4 = 7$
   $\frac{x}{2} = 7 - 4$
   $\frac{x}{2} = 3$
   $x = 3 \times 2$
   $x = 6$

7. $10x - 15 - 4x - 5 = 4x - 8$
   $10x - 4x - 4x = -8 + 15 + 5$
   $2x = 12$
   $x = \frac{12}{2}$
   $x = 6$

8. $12x - 24 - 9x + 21 = 2x + 6 - 2$
   $12x - 9x - 2x = 6 - 2 + 24 - 21$
   $x = 7$

Challenge:

x = large scale aircraft

$25(20 - x) + 40x = 590$

$500 - 25x + 40x = 590$

$-25x + 40x = 590 - 500$

$15x = 90$

$x = \frac{90}{15}$

$x = 6$