

Solving Quadratic Equations Quiz Review

1. $25x^2 - 81 = 0$

$+81 +81$
 $25x^2 = 81$
 $x^2 = \frac{81}{25}$
 $x = \frac{9}{5}, -\frac{9}{5}$

2. $(x-2)^2 = 25$

$x-2 = 5$ $x-2 = -5$
 $+2 +2$ $+2 +2$
 $x = 7, -3$

3. $x^2 - 21x + 80 = 0$

$(x-5)(x-16) = 0$
 $x-5=0$ $x-16=0$
 $+5 +5$ $+16 +16$
 $x = 5, 16$

4. $2x^2 - 11x - 21 = 0$

$(2x+3)(x-7) = 0$
 $2x+3=0$ $x-7=0$
 $\frac{2x}{2} = -\frac{3}{2}$ $+7 +7$
 $x = -\frac{3}{2}, 7$

5. $x^2 + 10x + 19 = 3$

$-3 -3$
 $x^2 + 10x + 16 = 0$
 $(x+2)(x+8) = 0$
 $x = -2, -8$

6. $8x^3 + 10x^2 - 3x = 0$

$x(8x^2 + 10x - 3) = 0$
 $x(4x-1)(2x+3) = 0$
 $x = 0$ $4x-1=0$ $2x+3=0$
 $\frac{4x}{4} = \frac{1}{4}$ $-1 -1$ $-3 -3$
 $\frac{2x}{2} = -\frac{3}{2}$
 $x = 0, \frac{1}{4}, -\frac{3}{2}$

7. $5x^2 - 8x = 6x + 3$

$-6x -3 -6x -3$
 $5x^2 - 14x - 3 = 0$
 $(x-3)(5x+1) = 0$
 $x = 3, -\frac{1}{5}$
 $5x+1=0$
 $\frac{5x}{5} = -\frac{1}{5}$
 $x = -\frac{1}{5}$

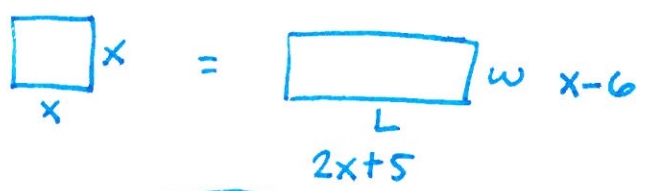
8. $x^2 - 3x = 18$

$-18 -18$
 $x^2 - 3x - 18 = 0$
 $(x+3)(x-6) = 0$
 $x+3=0$ $x-6=0$
 $-3 -3$ $+6 +6$
 $x = -3, 6$

9. Solve: $\left(\frac{k}{3} - \frac{1}{3k} = \frac{1}{k}\right) 3k$

$\frac{3k^2}{3} - \frac{3k}{3k} = \frac{3k}{k}$
 $= k^2 - 1 = 3$
 $+1 +1$
 $\sqrt{k^2} = \sqrt{4}$
 $k = 2, -2$

10. A square and a rectangle have the same area. The length of the rectangle is 5 inches more than twice the length of the side of the square. The width of the rectangle is 6 inches less than the side of the square. Find the length of the side of the square.



$x^2 = (2x+5)(x-6)$
 $x^2 = 2x^2 - 12x + 5x - 30$
 $x^2 = 2x^2 - 7x - 30$
 $-x^2 -x^2$

$0 = x^2 - 7x - 30$
 $(x+3)(x-10) = 0$
 $x+3=0$ $x-10=0$
 $x = -3, 10$
 $x = 10 \text{ inches}$