

Name:

Quiz: Solving Quadratics

standard form: $ax^2 + bx + c = 0$

Solve By Factoring. Remember to check for a GCF first.

① $n^2 - 5n - 24 = 0$
 $(n-8)(n+3) = 0$
 $n=8$ $n=-3$

② $3r^2 - 20r + 32 = 0$
 $(3r-8)(r-4) = 0$
 $3r-8=0$ $r-4=0$
 $r=8/3$ $r=4$

GCF

③ $3x^2 - x = 0$
 $(3x^2 - x) = 0$
 $x(3x-1) = 0$
 $x=0$ $3x-1=0$
 $x=1/3$

④ $3x^2 + 9x - 54 = 0$
 $3(x^2 + 3x - 18) = 0$
 $3(x+6)(x-3) = 0$
 $x=-6$ $x=3$

⑤ $2x^2 + x - 15 = 0$
 $(2x-5)(x+3) = 0$
 $x=5/2$ $x=-3$

⑥ $3x^2 - 14x + 15 = 0$
 $(3x-5)(x+3) = 0$
 ~~$x=5/3$~~ ~~$x=-3$~~
 $x=5/3$ $x=-3$

Solve using the square roots method. $x=5/3$ $x=-3$

⑦ $\sqrt{(x+4)^2} = \sqrt{121}$
 $x+4 = \pm 11$
 $x = -4 \pm 11$
 $x = -15$ $x = 7$

⑧ $(2x+6)^2 - 8 = 24$
 $+8$ $+8$
 $\sqrt{(2x+6)^2} = \sqrt{32}$
 $2x+6 = \pm 4\sqrt{2}$
 $2x = -6 \pm 4\sqrt{2}$
 $x = -3 \pm 2\sqrt{2}$

⑨ $3x^2 - 7 = 54$
 $+7$ $+7$
 $\frac{3x^2}{3} = \frac{61}{3}$

⑩ $x^2 = \frac{61}{3}$
 $x = \pm \sqrt{\frac{61}{3}}$

$2x^2 - 10 = -x^2 - 7$
 $+x^2$ $+10$ $+x^2$ $+10$
 $\frac{3x^2}{3} = \frac{9}{3}$
 $x^2 = 3$
 $x = \pm \sqrt{3}$