

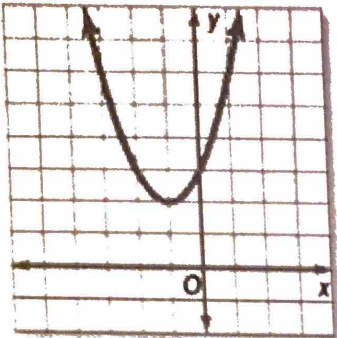
Algebra 2 2B Day 01 HW

Solving Quadratic Equations by Graphing & Factoring

Name Master G
 Date _____ Block _____

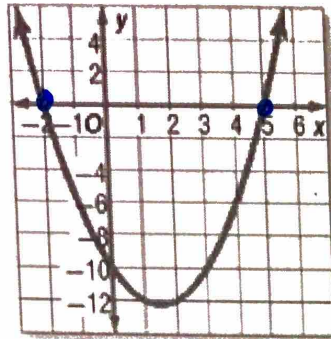
1-3: Use the related graph of each equation to determine its solutions.

1. $x^2 + 2x + 3 = 0$



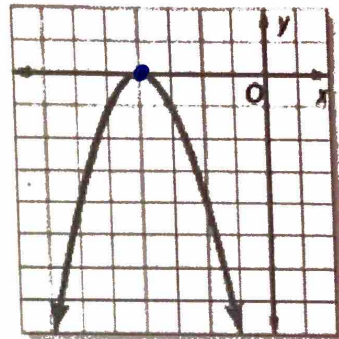
Solutions: No real soln.

2. $x^2 - 3x - 10 = 0$



Solutions: {-2, 5}

3. $-x^2 - 8x - 16 = 0$

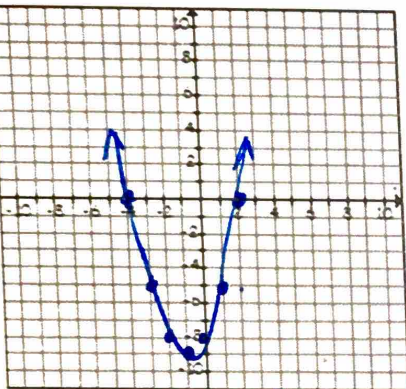


Solutions: -4, double root

4-6: Solve each equation by graphing.

4. $y = x^2 + 2x - 8$

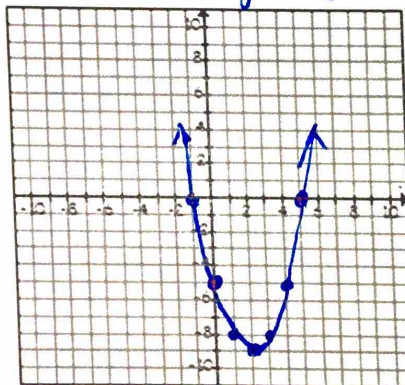
$x = \frac{-2 \pm \sqrt{4 + 32}}{2}$
 $y = 1 - 2 - 8$
 $y = -9$



Solutions: {-4, 2}

5. $y = x^2 - 4x - 5$

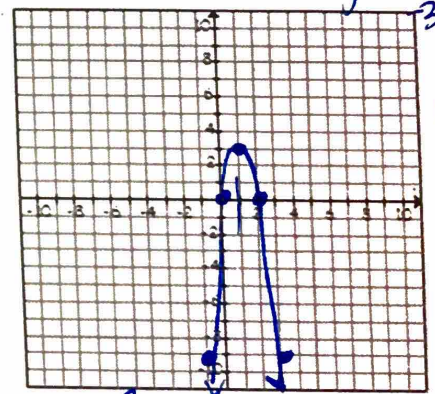
$x = \frac{4 \pm \sqrt{16 + 20}}{2}$
 $y = 4 - 8 - 5$



Solutions: {-1, 5}

6. $y = -3x(x - 2)$

$x = 1, y = -3(1)(1-2)$
 $3(-1)$
 3
 $(1, 3)$



Solutions: {0, 2}

7-15: Solve each quadratic equation by factoring and the Z.P.P.

7. $9a = 10a^2$

$10a^2 - 9a = 0$
 $a(10a - 9) = 0$
 $a = 0$ or $10a - 9 = 0$
 $a = \frac{9}{10}$

8. $16x^2 = 49$

$16x^2 - 49 = 0$
 $(8x + 7)(8x - 7) = 0$
 $8x + 7 = 0$ or $8x - 7 = 0$
 $8x = -7$ or $8x = 7$
 $x = -\frac{7}{8}$ or $x = \frac{7}{8}$

9. $4x^2 - 35x = 9$

$4x^2 - 35x - 9 = 0$
 $4x^2 - 36x + x - 9 = 0$
 $4x(x - 9) + 1(x - 9) = 0$
 $(x - 9)(4x + 1) = 0$
 $x = 9, -\frac{1}{4}$

10. $7y^2 - 4y = 0$

$y(7y - 4) = 0$
 $y = 0$ or $7y - 4 = 0$
 $7y = 4$
 $y = \frac{4}{7}$

11. $8x^2 + 2x - 3 = 0$

$8x^2 + 6x - 4x - 3 = 0$
 $2x(4x + 3) - 1(4x + 3) = 0$
 $(4x + 3)(2x - 1) = 0$
 $4x + 3 = 0$ or $2x - 1 = 0$
 $4x = -3$ or $2x = 1$
 $x = -\frac{3}{4}$ or $x = \frac{1}{2}$

12. $8x^2 - 10x = 0$

$2x(4x - 5) = 0$
 $2x = 0$ or $4x - 5 = 0$
 $x = 0$ or $4x = 5$
 $x = \frac{5}{4}$

13. $-6x^2 = -26x + 20$

$0 = 6x^2 - 26x + 20$
 $2(3x^2 - 13x + 10)$
 $2(3x^2 - 10x - 3x + 10)$
 $x(3x - 10) - 1(3x - 10) = 0$
 $(3x - 10)(x - 1) = 0$
 $x = \frac{10}{3}$ or $x = 1$

14. $3x^2 - 21x + 30 = 0$

$3(x^2 - 7x + 10)$
 $3(x - 5)(x - 2) = 0$
 $x = 5, 2$

15. $4x^2 = -20x - 25$

$4x^2 + 20x + 25 = 0$
 $4x^2 + 10x + 10x + 25 = 0$
 $2x(2x + 5) + 5(2x + 5) = 0$
 $(2x + 5)(2x + 5) = 0$
 $x = \pm \frac{5}{2}$