

Quiz 2.3-2.5

$$\frac{1}{35} + \frac{1}{3}$$

Name: _____

1. Use completing the square to find the max or min value of the function and the value of x when it occurs. No decimals. [2,3]

a) $y = x^2 + 12x - 7$

b) $y = -\frac{3}{2}x^2 - \frac{1}{6}x + \frac{7}{9}$

2. Solve. (Choose an appropriate/efficient method). Exact answers only. [13]

a) $9x^2 - 3x - 2 = 0$

b) $6x^2 + 12 = 0$

c) $2x^2 + 20x = -50$

d) $x^2 - 3x + 17 = 0$

e) $-(x-1)^2 = -9$

f) $-8x = 4x^2 - 1$

3. How many zeros do these quadratics have? DO NOT SOLVE! [3]

a) $y = x^2 + 9x + 20$

b) $y = x^2 - 6x + 13$

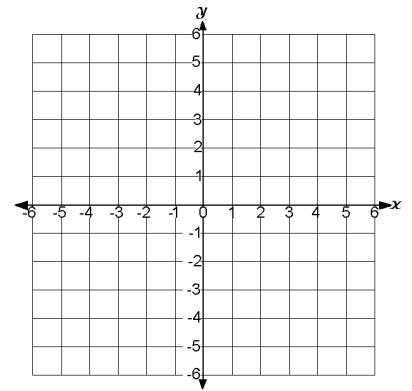
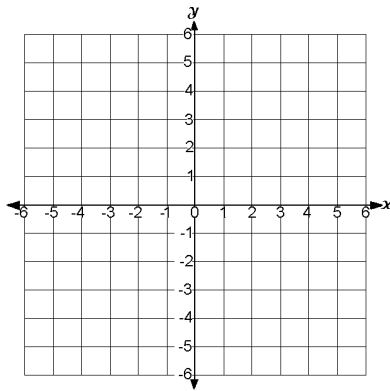
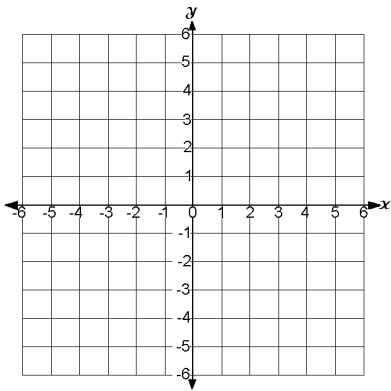
c) $2x^2 - 6x = -\frac{18}{4}$

4. Graph using the indicated method. Show work as dictated by the method. [4,3,4]

a) $y = 2x^2 - 4x + 1$
(by partial factoring)

b) $y = -3(x+1)^2 + 6$
(using vertex form)

c) $y = x^2 - 4$
(by factoring)



5. Given $y = -3x^2 - 24x + 32$, find the vertex and the x-intercepts (if any exist). Exact answers only. Extend your understanding by finding the vertex in a variety of ways. [3]