

Chap. 5

**READ: You must show work in order to receive credit.****1.** Factor each expression completely if it is factorable.

a)  $5x^2 - 125$

b)  $x^2 + 9 - 6x$

c)  $81y^4 - 1$

d)  $x^3 - 2x^2 + 3x - 6$

e)  $m^8 + 8m^5$

f)  $x^3 + x^2 - 12x$

g)  $10b^2 + 11b - 6$

h)  $18y^2 + 21y - 9$

i)  $6a^2 - 31a + 5$

j)  $3a^2 + 18ab + 24b^2$

l)  $25x^2 - 60x + 36$

k)  $8x^2 + 10xy + 2y^2$

**2.** Solve each equation by factoring.

a)  $6x^2 + 2x = 0$

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

c)  $x(x - 2) = 24$

d)  $(x - 3)^2 = 25$

**3.** Find the x-intercepts for the graph of  $y = 4x^2 + x - 3$ .**4.** The length of the frame for a rectangular is 14 longer than the width. The area of the gate is 240 square feet. Find the width and length of the rectangular.**5.** The diagonal measure of a rectangular computer screen is 51 cm. If the screen is 24cm tall, how wide is it?**6.** The equation,  $h = -16t^2 + 40t + 96$ , describes the height above the water (in feet) for a ball that is thrown upward from a cliff after  $t$  seconds. Find how long it will take for the ball to hit the water.