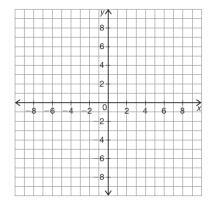
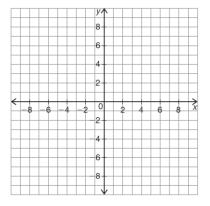
(MATH 4/5 H)

Quadratics Homework #5

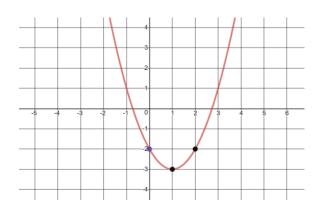
Directions: Convert the functions below into the given form and graph the quadratic functions.

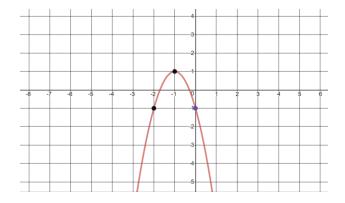
1.
$$f(x)=2x^2+36x-8$$
 2. $f(x)=-3(x-4)(x+2)$





Directions: Graph each transformation by using the reference points provided. 1. $g(x) = -\frac{1}{2}f(x-1) + 1$ 2. g(x) = 2f(-x+1)





Directions: Write a quadratic function that represents each problem situation.

1. Ella's dog, Doug, is performing in a special trick show. Doug can fling a ball off his nose into a bucket 20 feet away from him. Ella places the ball on Doug's nose which is 4 feet off the ground. He flings the ball through the air into the bucket on a 4-foot tall platform. Halfway to the bucket, the ball is 10 feet in the air.

2. A spectator in the crowd throws a treat to one of the dogs in a competition. The spectator throws the treat from the bleachers 19 feet off the ground. The treat amazingly flies 30 feet and barely crosses over a hoop that is 7.5 feet off the ground. The dog catches it 6 feet further than the hoop about 1 foot above the ground.

3. John's dog, Ginger, competes in water jumping. She jumps from the water, catches a toy duck at a horizontal distance of 10 feet from the jump and a height of 2 feet above the water, and lands back in the water at a horizontal distance of 15 feet from the jump.

3. (2xi - 9)(3x+5i)

2.
$$-(4i - 1 + 3i) + (6i - 10 + 17)$$
 4. $\frac{-1 + 5i}{1 - 4i}$

Directions: Use the discriminant to determine how many and what type of zeros these have.

1. $f(x)=x^2-4x+7$

2. $f(x) = -\frac{1}{4}x^2 + 3x - 8$

Directions: Find the zeros of the functions.

1. $f(x)=9x^2-12x+4$

2. $f(x)=x^2+2x+10$