**1.** While playing basketball this weekend, Frank shot an air-ball. The path of the ball can be modeled by the equation ***h(t) = -16t2 + 32t + 8*** where *h* is the height of the ball measured in feet and *t* is the time measured in seconds after release of the ball.

1. Find the height of the ball after 1 second.

**WORK SPACE**

1. Find the height of the ball after 2 seconds.
2. At what time(s) is the ball at a height of 8 ft?
3. What is the maximum height of the ball? After how many seconds does the ball reach this height?

Max Height:

Time:

1. The ball completely misses the ball and continues to fall; how long does it take for the ball to hit the ground?

**2.** Abigail wants to make a wish while throwing a coin off a bridge into a stream. The path of the coin can be modeled by the equation ***h(t) = -16t2 + 50t + 112*** where *h* is the height of the coin measured in feet from the water and *t* is the time measured in seconds after release of the coin.

1. Find the height of the coin after 1 second.

**WORK SPACE**

1. Find the height of the coin after 2 seconds.
2. At what time(s) is the coin at a height of 50 ft?
3. What is the maximum height of the coin? How long does it take for the coin to reach this height?

Max Height:

Time:

1. How much time does Abigail have to make her wish? (How long is the coin in the air before it hits the water?)