Physics Vector Worksheet   Name _____
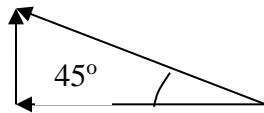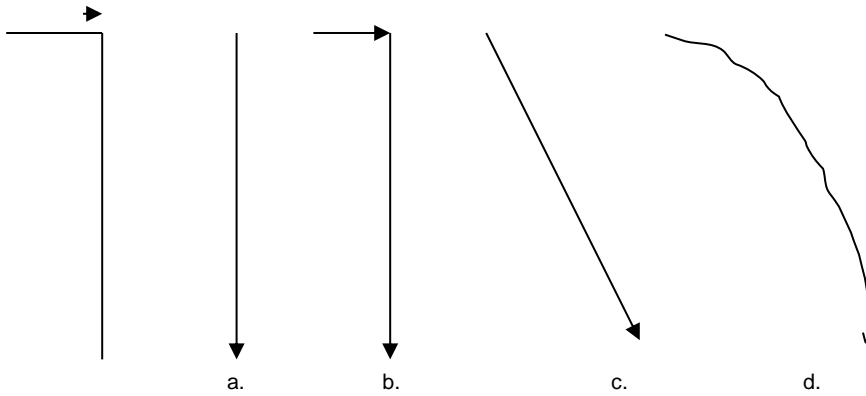
**All people mentioned are phictitious. Any similarity to persons living or near living is a coincidence.
Thoroughly EXPLAIN each answer.**

1.   Matt runs away from Ashley. Matt runs 40 m north and 30 m west. What is the minimum distance Ashley must run to catch Matt?

2.   Danielle and Genene pull on Geoffrey. Danielle pulls with a force of 200 N to the right. Genene pulls with a force of 250 N left. What is the force on Geoffrey?

3.   Eric and Tom pull on Arti. If Eric pulls with a force of 300 N to the right and Tom pulls with a force of 350 N to the right, what is the force on Arti?

4.   Eric and Luke are trying to figure out the maximum force and minimum force that is exerted when a force of 150 N and a force of 200 N act on the same body. However, they are stumped. Can you get the answers for our budding Physics Phanatics?

5.   Kristina and Katie decide to do some cliff diving. The cliff is 80 m high. After taking a look over the cliff, Katie decides the smart thing is to walk away. However, Kristina will have none of this and pushes Katie over the cliff while jumping straight out at 20 m/s.
        a.   Who takes longer to hit the water from the time they leave the cliff?

        b.   How much time does it take for Kristina to hit the water?

6.   Jessica runs 14.1 m northwest. Determine how far north and how far west Jessica has run.
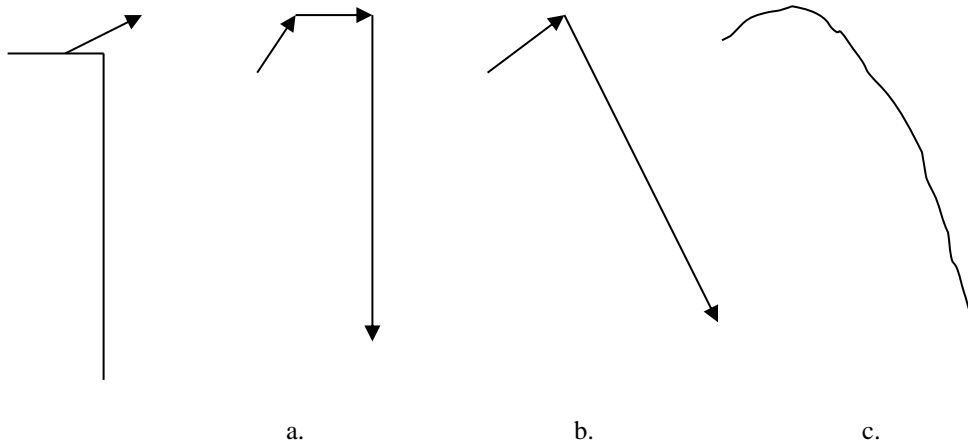

45°

7.   Ken, Whitney, and Victor kick a soccer ball. They each kick the ball with the same speed of 10.0 m/s. However, Victor kicks the ball with an angle of 30°, Whitney kicks at an angle of 45°, and Ken kicks at an angle of 70°.
        a.   Who kicked the ball the greatest distance? Show with math.

        b.   Who kicked the ball the highest? Show with math.

8.   Grace runs off a 125 m cliff as shown below. Which path best represents her motion?

      a.   b.   c.   d.

9.   Stacy dives off a 10 m board as shown below. Which path best represents her motion?

              a.   b.   c.

10.   Beth and Stephen start at the same time and at the same point. Beth walks 35 m north then walks 50 m east. Stephen walks 50 m east then 35 m north. How far apart are they at the end of their walks?

11.   Lisa and Tiffany are playing a game of catch. Lisa throws the ball at 25 m/s to Tiffany. Tiffany catches the ball traveling at a speed _____. (greater than 25 m/s, 25 m/s, less than 25 m/s)

12.   John and In-Sang decide to pull down a tree. They determine that using two ropes would be best. Which of the ways shown should they pull? Explain.

      a.   b.   c.