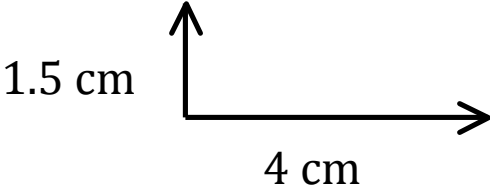
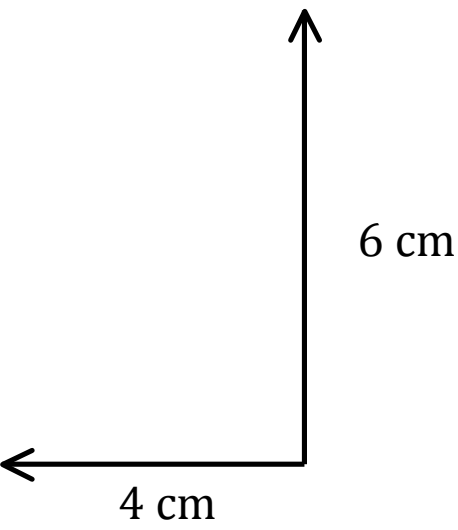
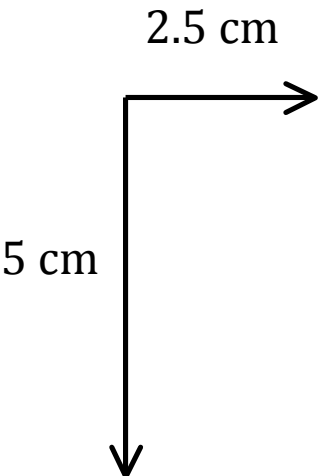
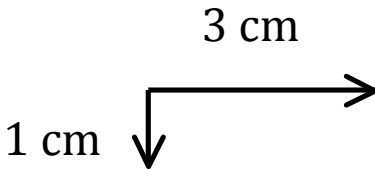


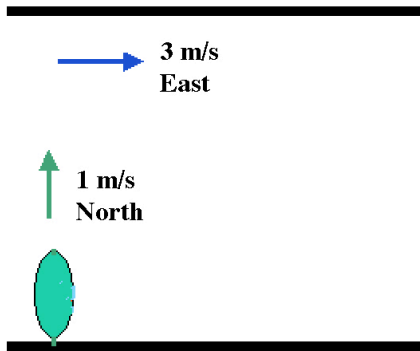
## Vector Addition Worksheet

- Use the parallelogram method to draw in the resultant vector for each diagram below.
- Use the Pythagorean theorem to verify the length of the resultant vector. Show your work!

1. 	
2. 	
3. 	
4. 	

- For each scenario below **draw a diagram** showing the **component vectors**.
- Determine the **resultant vector**. Show your work.

5. A river flows with a speed of 3 m/s eastward while a physics student paddles 1 m/s northward.



6. A boy pulls horizontally on a Christmas tree with 50 N of force while a reindeer pulls vertically with a force of 30 N.



7. A plane flies due north at a speed of 300 km/hr while a wind blows 125 km/hr due west.

### Challenge problem

8. A boy shoots a slingshot at a 30 degree angle from the horizontal at a speed of 10 m/s.

a. What is the horizontal component of this vector? Show work.

b. What is the vertical component of this vector? Show work.

