13.2 Vectors in General

Name: Date:

P 1. Is the population of the US a vector or a scalar?

P 2. Is the distance from Seattle to St. Louis a vector or a scalar?

P 3. Is the temperature at a point on the earth's surface a vector or a scalar?

P 4. Is the magnetic field at a point on the earth's surface a vector or a scalar?

P 5. Are the populations of each of the 50 states a vector or a scalar?

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P 8. A car is traveling at a speed of 50 km/hr. The positive y-axis is north and the positive x-axis is east. Resolve the car's velocity (in 2-space) into components if the car is traveling in each of the following directions:

(a) East

(b) South

(c) Southeast

(d) Northwest

P 18. An airplane is flying at an airspeed of 600 km/hr in a cross-wind that is blowing from the northeast at a speed of 50 km/hr. In what direction should the plane head to end up going due east?

P 21. A large ship is being towed by two tugs. The larger tug exerts a force which is 25% greater than the smaller tug and at an angle of 30 degrees north of east. Which direction must the smaller tug pull to ensure that the ship travels due east?