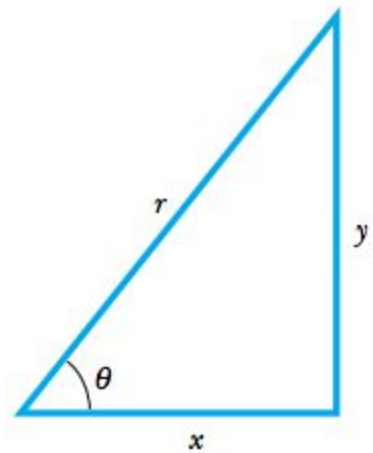


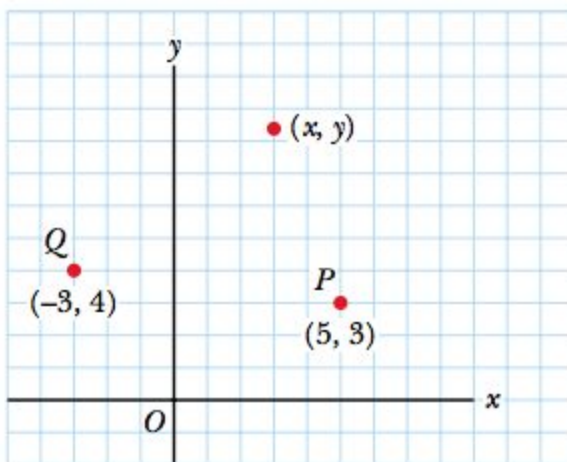
3.1 Coordinate Systems

1.) Write out the trigonometric ratios.

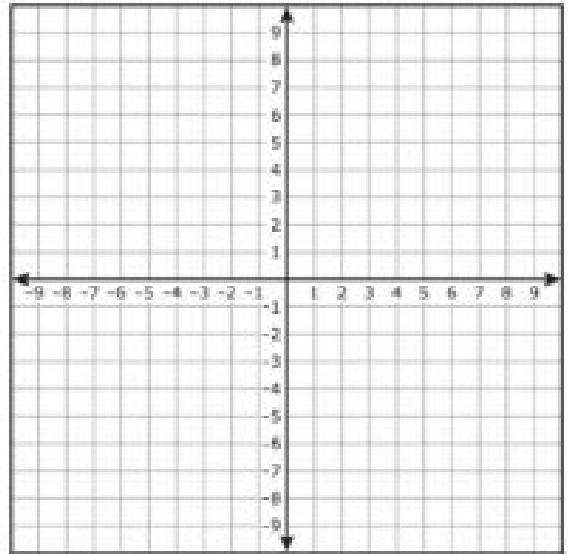


2.) What are the equations for θ and r ?

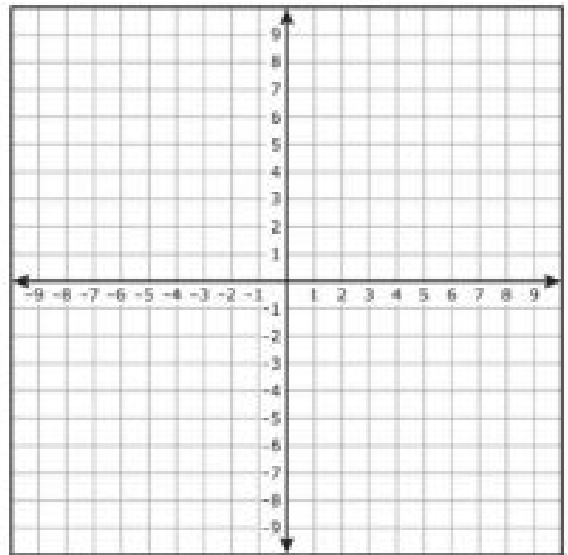
3.) Find θ and r for each of the given points.



- 4.) The Cartesian coordinates of a point in the xy plane are (x, y) $(-3.50, -2.50)$ m. Find the polar coordinates of this point.



- 5.) The Cartesian coordinates of a point in the xy plane are (x, y) $(8, -6)$ m. Find the polar coordinates of this point.

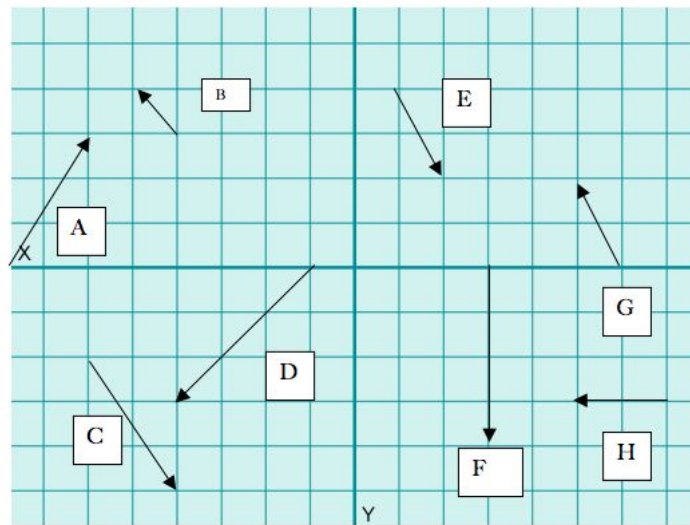


3.2 Vector and Scalar Quantities

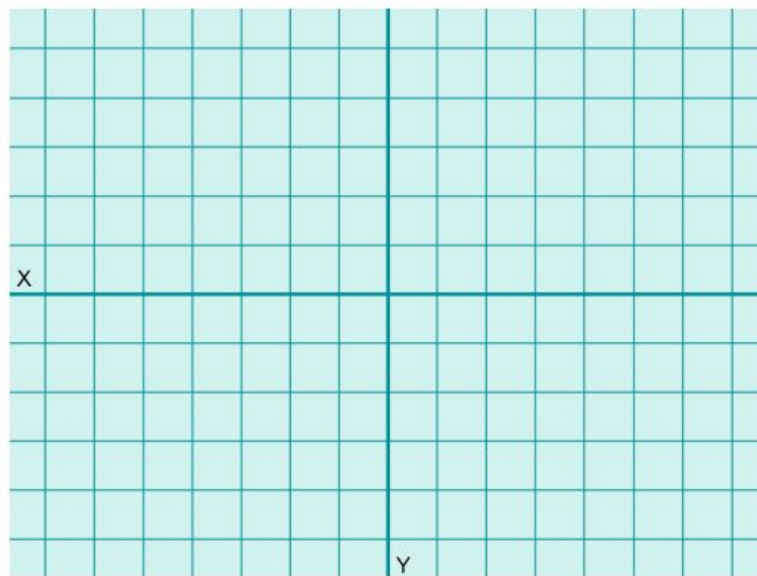
- 6.) Define vector and scalar quantities.

7.) Which of the following are vector quantities and which are scalar quantities?(a) your age
(b) acceleration (c) velocity (d) speed (e) mass

8.) Given the following vectors, create head to tail models and find the resultant magnitude and direction. the arrows are not perfect but use the corner that they are closest to

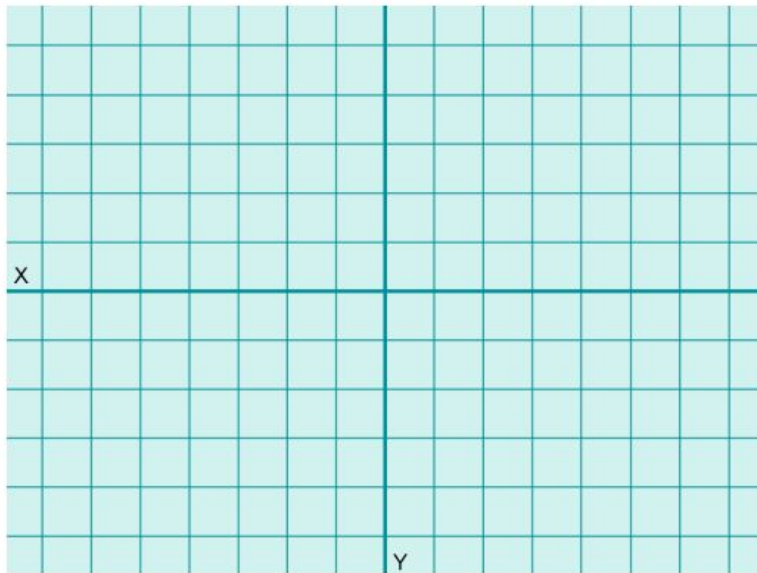


a) $A + B$



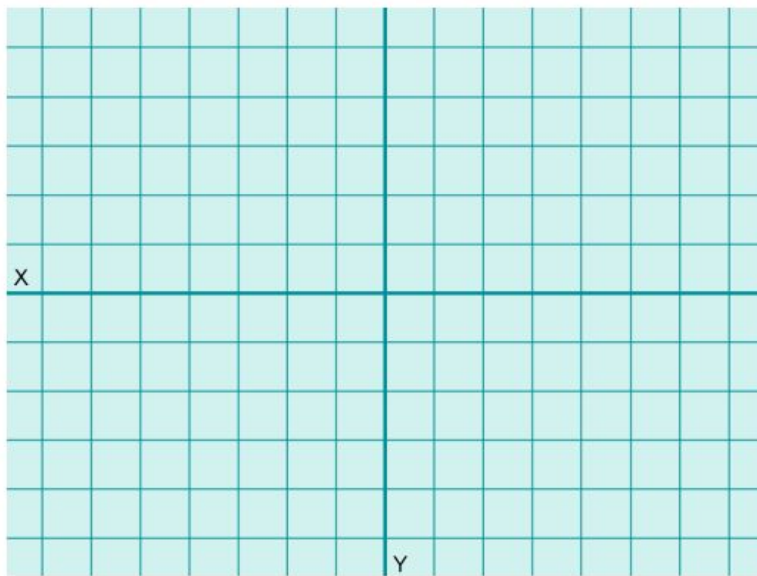
Magnitude = _____ Direction = _____

b) $B + C$



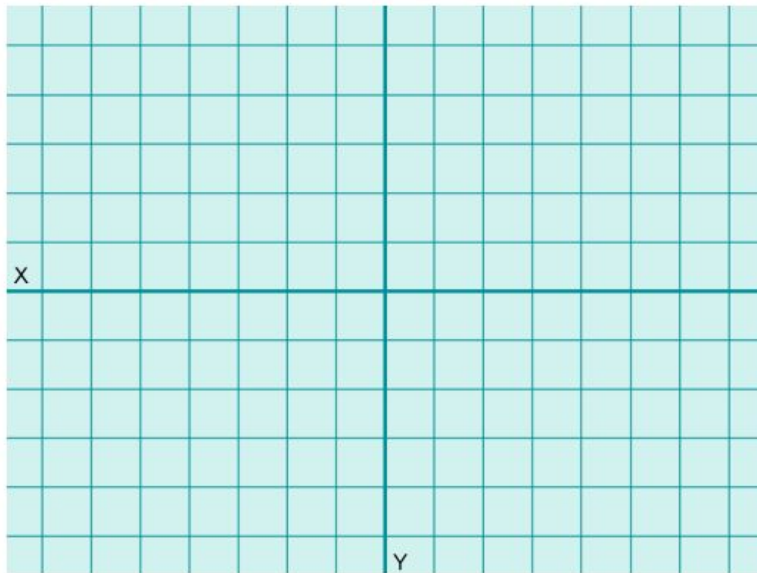
Magnitude = _____ Direction = _____

c) $E - G$



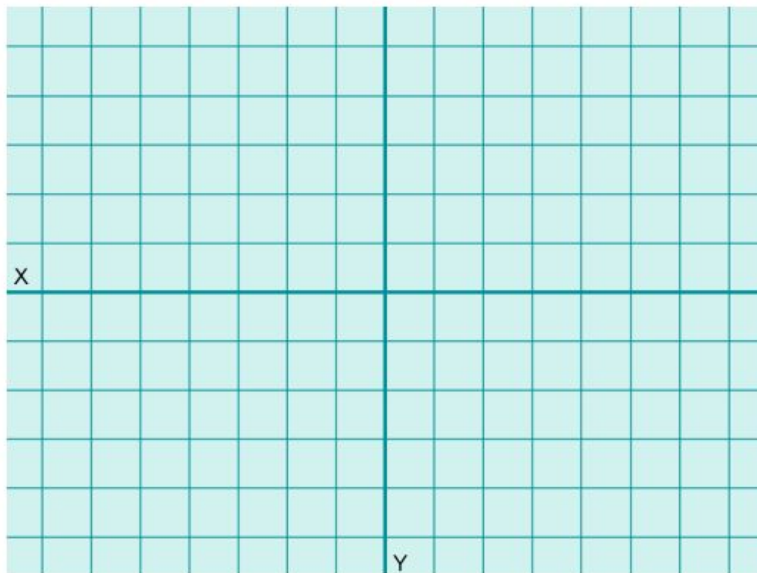
Magnitude = _____ Direction = _____

d) $D + E$



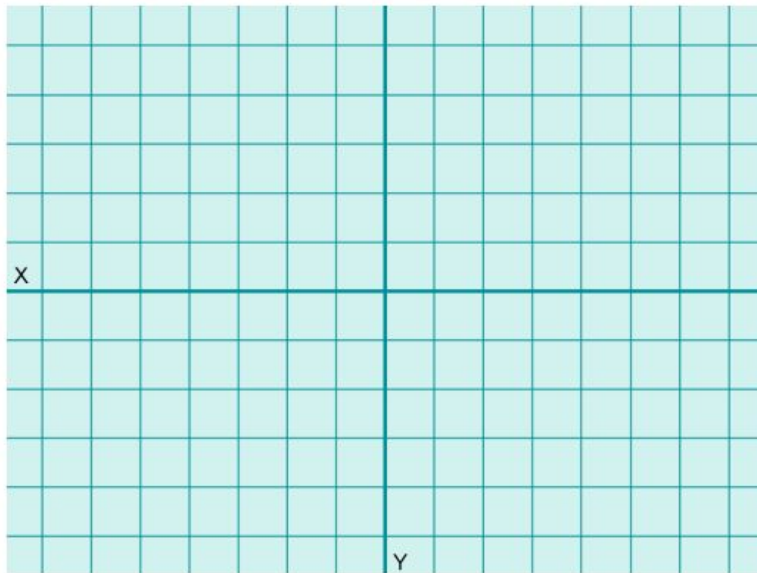
Magnitude = _____ Direction = _____

e) $A - C$



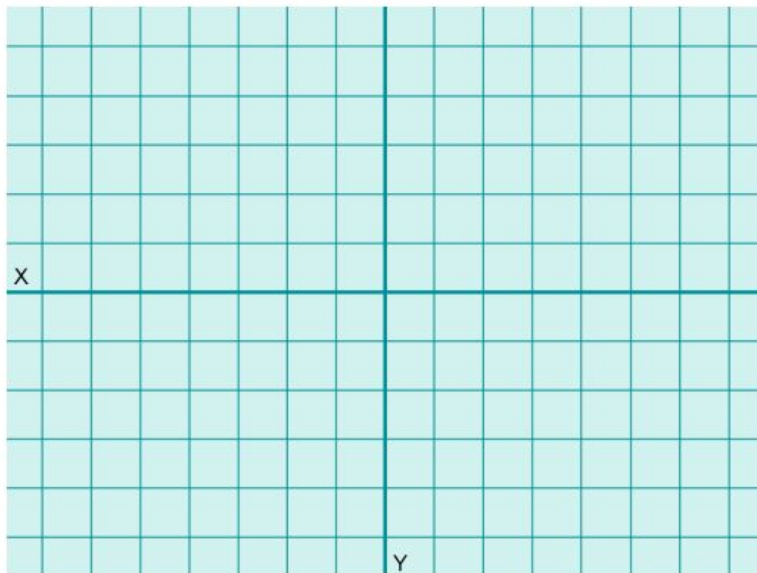
Magnitude = _____ Direction = _____

f) $A + F$



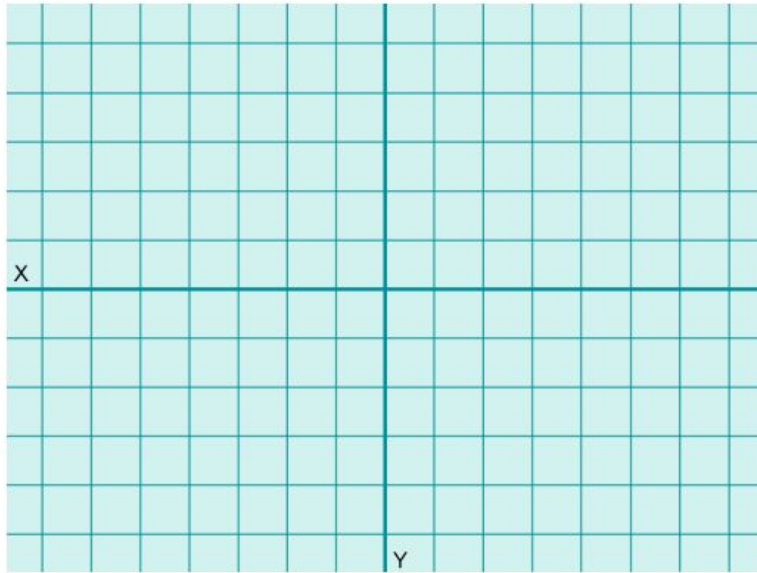
Magnitude = _____ Direction = _____

g) $F + A$



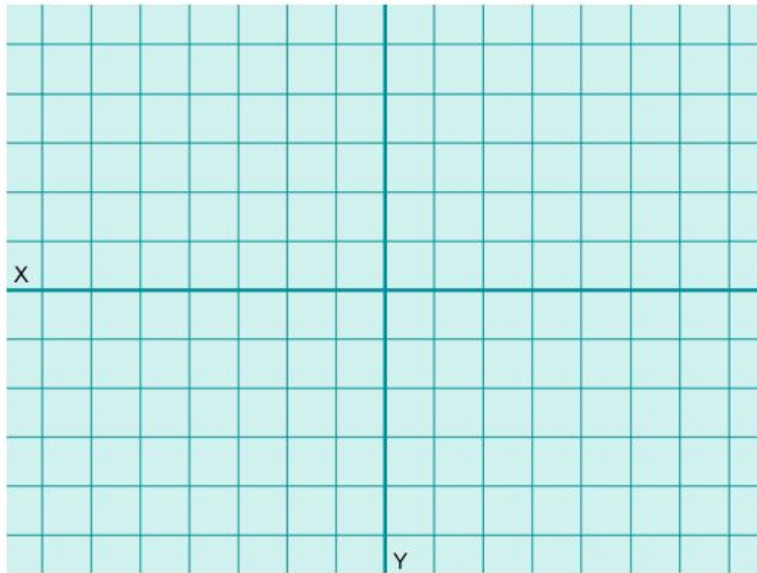
Magnitude = _____ Direction = _____

h) $D + E + F$



Magnitude = _____ Direction = _____

i) $A - B$



Magnitude = _____ Direction = _____