

Name _____

Date _____

Unit 9: Working with Trig Ratios:

Section 8.3- Assignment #5

Please do this part on a separate piece of paper. Draw good diagrams.

- 1) Two hikers leave their campsite (from the same point). One walks east 2.85 km and the other walks south 6.03 km.
 - a) After the hikers leave their destinations, what is the bearing from the southern hiker to the eastern hiker?
 - b) How far apart are they?

- 2) Two hikers leave their campsite (from the same point). Hiker A walks East at a rate of 2 feet per second and hiker B walks south at a rate of 6 feet per second.
 - a) Draw a diagram of the situation.
 - b) How far apart are they after 5 seconds.
 - c) Develop an equation with t that will show the distance they are apart for any t value.

- 3) A ship is moving at a speed of 18 miles per hour from Corpus Texas toward Panama City, Florida. Panama City is 750 miles from Corpus at a bearing of 73 degrees.
 - a) Make a sketch of the tankers motion, including the coordinate axis.

 - b) How long does it take to get to Panama City?

 - c) How far east and how far North is Panama City from Corpus?

- 4) A plane is flying at 100 miles per hour on a bearing of 60 degrees from the North
 - a) Draw a diagram of the motion. Write equations for x and y in terms of t to model the horizontal and vertical motion.
 - b) What range of t is required to display 500 miles of plane travel. T represents time in hours. So fill in _____ $< t <$ _____ for this problem.

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Working with Trig Ratios
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- 1) Write all the trig formulas (including inverses) relating the sides and angles in this triangle. **Draw the right triangle BCA where angle C is the Right angle.**

Sin B=	CSC B=	Sin A =	CSC A=
Cos B =	SEC B=	Cos A =	SEC A=
Tan B=	COT B=	Tan A =	COT A =

- 2) Draw a right triangle for each problem. Label the sides and angle then solve to find the unknown measure.

a) $\sin 20 = \frac{a}{12}$

b) $\cos 80 = \frac{25}{b}$

c) $\tan 55 = \frac{c+4}{c}$

d) $\sin^{-1}\left(\frac{17}{30}\right) = \text{Angle A}$

- 3) For each triangle, find the length of the labeled side. ACB is a right angle

a) Angle A = 32° $\overline{AC} = 14.7$ find a

b) Angle B = 47.2° $\overline{BA} = 24.6$ find b

c) Angle B = 47° $\overline{AC} = 58$ find c

- 4) For each triangle, draw the right triangle and find the measure of the missing angle. Angle ACB is right angle.

a) a=36 c= 125 Find Angle A

b) a = 7.3 b = 4.2 Find angle B

c) b=12 a = 60 Find angle B