PreCalc 11

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Trigonometry Review***

**For the following questions, show ALL work, then write your answer in the box provided, including the correct units.**

1. Calculate how much shorter path AC is than walking along path AB and then along path BC. Round your answer to the nearest tenth.

3.5 km

6.6 km

A

***Answer: \_\_\_\_\_\_\_\_\_\_***

B

C

2. Calculate the missing side for each of the following triangles. Round your answers to the nearest tenth.

51°

12 cm

***f***

(a) (b)

***d***

68°

36 cm

***d: \_\_\_\_\_\_\_\_\_\_\_\_***

***f: \_\_\_\_\_\_\_\_\_\_\_\_***

3. Solve for the missing angle in each of the following triangles. Round your answers to the nearest degree.

21 mm

45 mm

θ

(a) (b) .

5.2 cm

θ

6.7cm

***θ : \_\_\_\_\_\_\_***

***θ : \_\_\_\_\_\_\_***

4. Given the following triangles, solve for all missing sides and/or angles. Round all lengths to the nearest tenth and all angles to the nearest degree.

*r = \_\_\_\_\_\_\_\_\_\_*

*t* = \_\_\_\_\_\_\_\_\_\_\_

∠S = \_\_\_\_\_\_\_\_\_

R

(a)

53°

12 cm

T

S

8.3 cm

6.5 cm

Y

X

*y* = \_\_\_\_\_\_\_\_\_\_\_

∠X = \_\_\_\_\_\_\_\_\_

∠Z = \_\_\_\_\_\_\_\_\_

(b)

Z

Cliff

5. A person standing on top of a cliff 250 m above the sea looks out and sees a ship.

 The angle of elevation to the top of the cliff from the ship is 36°. **Complete the diagram below** and use it to find how far it is from the ship to the bottom of the cliff. Express you answer to the nearest metre.

***Answer: \_\_\_\_\_\_\_\_\_\_***

6. From the basket of a hot air balloon, the angle of depression to where the balloon is anchored is 68°. If the hot air balloon is 54 m above the ground, how long is the rope connecting it to the anchor point? Assume that the rope line is straight and express your answer to the nearest tenth of a metre.

Point

Anchor



***Answer: \_\_\_\_\_\_\_\_\_\_***

7. A fishing captain detects a school of fish at a depth of 50m. If the angle of depression from the captain to the fish is 23°, what horizontal distance, to the nearest tenth of a metre, is the ship from the school of fish? (Draw and label a diagram)

***Answer: \_\_\_\_\_\_\_\_\_\_***

8. Solve for the missing variable, rounding all answers to the nearest tenth.

(a) (b)

75.2 cm

35º

41º

***x***

13 cm

16 cm

***p***

11 cm

***x: \_\_\_\_\_\_\_\_\_\_***

***p: \_\_\_\_\_\_\_\_\_\_***

9. Two trees are 100m apart. From a point halfway between the trees, the angle of elevation to the top of the shorter tree is 8º and the angle of elevation to the top of the taller tree is 13º. How much taller is the one tree than the other? Draw and label a diagram. Round your answer to the nearest tenth.

***Answer: \_\_\_\_\_\_\_\_\_\_***