Geometry, Measurement and Finance 10 **Name: _____**
Chp. 7/8 Test – Angles and Trigonometry **November 2015**

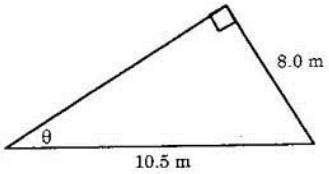
PART A – Multiple Choice (15 Marks)
Shade in the letter corresponding to the correct solution on the scantron sheet provided.

1. What is the **complementary** angle to 60° ?
[A] 300° [B] 120° [C] 90° [D] 30°

2. A tree casts a shadow 18.2 m long when the angle of elevation to the sun is 38º. Find the height of the tree.

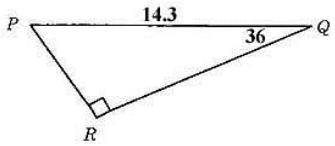
[A] 14.22 m [B] 11.21 m
[C] 14.34 m [D] 23.29 m

3. To the nearest degree, what is the value of θ in the diagram?



[A] 40º [B] 45º
[C] 50º [D] 53º

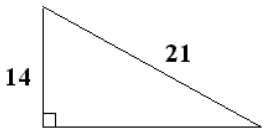
4. In the diagram shown, what is the length of ***p*** to the nearest tenth?



[A] 8.4 [B] 17.7
[C] 10.4 [D] 11.6

5. Find the length of the unknown side: (Round to the nearest whole number)

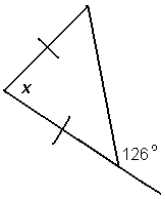
[A] 25 [B] 15
[C] 16 [D] 7



6. The Southwest Miramichi gets it's name because the starting point of the river is in the Southwest direction. What would be the bearning measure for this direction?

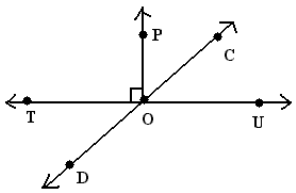
[A] 180° [B] 225° [C] 247.5° [D] 270°

7. Find the value of ***x*** in the following diagram:



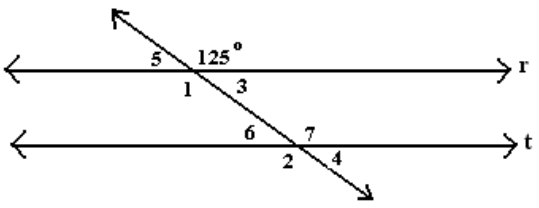
[A] 108° [B] 126°
[C] 54° [D] 72°

8. Name an angle that is **supplementary** to $\angle COU$ in the diagram below:



[A] $\angle DOT$ [B] $\angle COP$
[C] $\angle TOC$ [D] $\angle TOP$

9. In the diagram below, line *r* is parallel to line *t*. Find the measure of $\angle 6$?

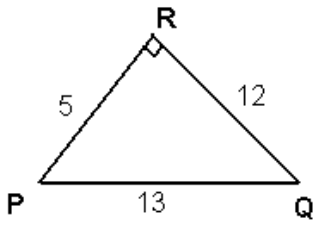


[A] 55 º [B] 125 º
[C] 130 º [D] 50 º

10. A 5.5 metre ladder is leaning against a wall. The angle formed between the ladder and the wall is 26° . How far up the wall does the ladder reach?

[A] 2.41 m [B] 2.68 m [C] 3.72 [D] 4.94 m

11. What is the value of **sin P** in the following diagram:



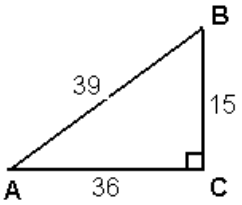
[A] $\frac{5}{13}$ [B] $\frac{12}{13}$

[C] $\frac{5}{12}$ [D] $\frac{12}{5}$

12. John is standing at a 5 m pole. He walks 12 m from the pole. What is the angle of elevation?

[A] 13° [B] 23° [C] 25° [D] 67°

13. What is the value of **cos B** to 4 decimal places?

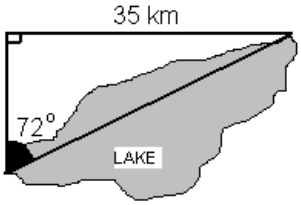


[A] 0.3846 [B] 0.9231
[C] 0.4167 [D] 2.4

14. If $\cos\theta = 0.5095$, what is the value of θ?

[A] 27° [B] 59° [C] 0° [D] 31°

15. Find the distance across the lake the following diagram:



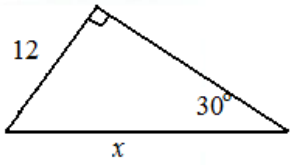
[A] 36.8 km [B] 107.7 km

[C] 33.2 km [D] 113.3 km

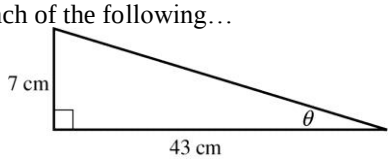
PART B – Open Response (26 Marks)
Show all your work in the space that is provided.

1. Determine the measure of the unknown in each of the following… [6]

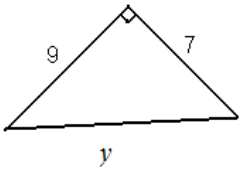
a)



b)



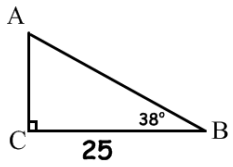
c)



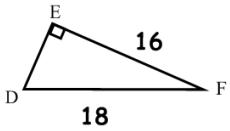
x = _____ θ = _____ y = _____

2. **Solve** each of the following triangles. **Clearly label and identify the unknown sides and angles.** [6]

a)

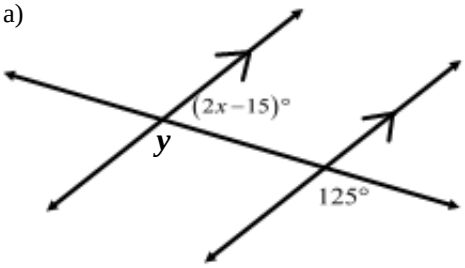


b)



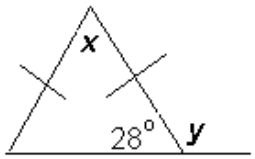
3. Determine the value for *x* and y in each of the following. Show all your work… [4]

a)



x = _____ ***y*** = _____

b)

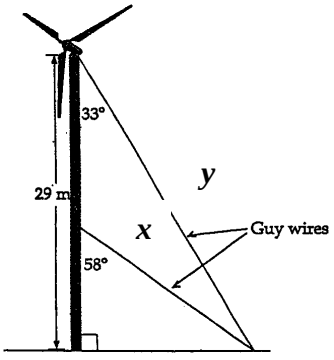


x = _____ ***y*** = _____

4. From the top of a tower 45.3 m high, Terry could see his campsite at an angle of depression of 33°. How far is the campsite from the tower? **(You must include a sketch)** [4]

Distance = _____

5. A windmill on a farm is supported by two guy wires, as shown below. **Find the lengths of the two guy wires**. [6]



Guy Wire *x* = _____ **Guy Wire *y* = _____**