

TEST: TRIG MAP4C1

NAME: _____

DATE: _____

Knowledge and Understanding (21)	Application (8)	Thinking/Problem Solving (6)	Communication (8)

Part A- Knowledge

Multiple Choice. Indicate the *most correct* answer. Record your answers on the form that is on the back of this test. **Only the answer form will be marked.** Each question is worth 1 mark unless otherwise indicated.

1. $\sin A = \frac{\textit{opposite}}{\textit{hypotenuse}}$, another way of writing the equation is:

- a) $\sin A = \frac{x}{r}$ b) $\sin A = \frac{y}{r}$ c) $\sin A = \frac{h}{x}$ d) $\sin A = \frac{x}{y}$ e) none of these

2. A vertex of a triangle is labeled **A**. In terms of **A**, side **a** is:

- a) the hypotenuse b) adjacent **A** c) side **b** d) 12 m e) none of these

3. If $\tan D = -4.2587$, and the angle is **obtuse**, the value for $\angle D$, to the nearest degrees is:

- a) $\cos D$ b) 180 c) 104 d) 257 e) none of these

4. If $\sin A = 0.5698$, and the angle is acute, the value for $\angle A$, in degrees is:

- a) 0.0002 b) 0.6063 c) 0.0099 d) 34.7362 e) none of these

5. Angle **T** is obtuse. The best way to describe $\tan T$ is:

- a) $> 90^\circ$ b) $\cos T$ c) $180^\circ - \tan T$ d) depressed e) negative

6. Of the following choices, the best way to describe an angle of depression:

- a) left b) down c) up d) right e) vertical

7. $\sin A = \cos A$ for many values of A . One of these values of $\angle A$ in degrees is:

- a) 50 b) 45 c) 112 d) 21 e) none of these

8. You are faced with this equation: $\sin 27^\circ = \frac{32}{t}$, assuming degree mode, the value of t is:

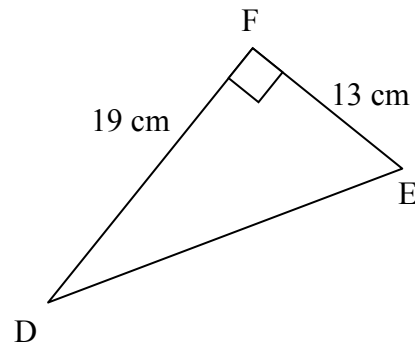
- a) 0.2536 b) 1917.096 c) 14.528 d) 70.49 e) none of these

9. You are faced with this equation: $\cos 81^\circ = \frac{r}{15}$, assuming degree mode, the value of r is:

- a) 12.3465 b) 0.0104 c) 2.35 d) 11.65 e) none of these

10. Considering the triangle DEF at right, the measure of angle D in degrees is:

- a) 46.83 b) 43.17 c) 23.02
d) 34.38 e) 145.62



11. Considering triangle DEF at right, the hypotenuse is best described as:

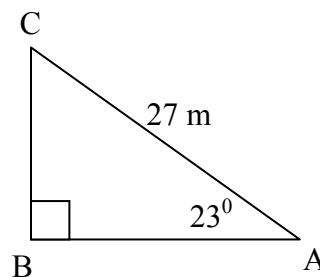
- a) side d b) side e c) side F
d) none- it's not right angled
e) the sum of the legs squared

12. Which of the following is a true statement?

- a) The sum of the angles in a triangle with an obtuse angle is more than 180 degrees.
b) The hypotenuse in a triangle with an obtuse angle is the longest side.
c) In order to use the sine law, you need to know at least two measures in a triangle.
d) The cosine law can be used when all three sides are given .
e) None of these is true.

13. Consider the triangle ABC at right. In terms of angle C, side CB is:

- a) adjacent b) hypotenuse c) opposite
d) x e) none of these



14. Consider the triangle ABC at right. In terms of the 23° angle, side CB is:

- a) adjacent b) hypotenuse c) x
d) opposite e) none of these

15. Considering the triangle ABC (above right), the length of side c, in metres, is:

- a) 10.55 b) 24.85 c) 11.46 d) 0.4338 e) 6.72

You have reached the end of the multiple choice section. The knowledge section continues on the next page.

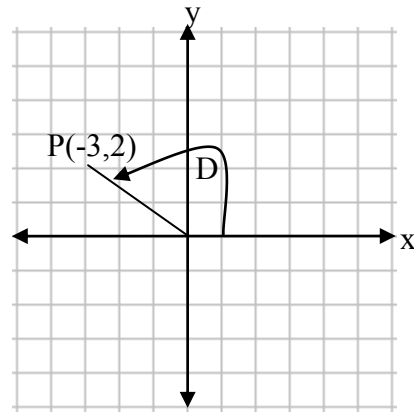
16. Find $\angle D$ knowing that it is **obtuse**. Round your answer to the nearest degree. [K/U: /3]

a) $\sin D = 0.6985$

b) $\tan D = -0.5123$

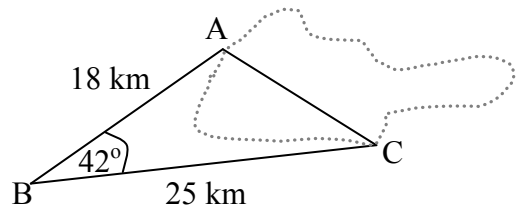
c) $\cos D = -0.6842$

17. Find the measure of $\angle D$. Be sure to clearly explain what you're doing. [K/U: /3]



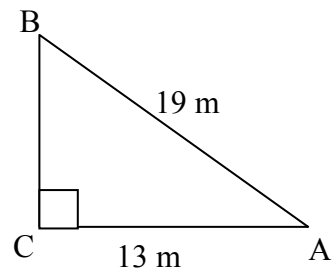
Part B- Application

1. You need to find the distance across a lake at AC. In order to do this, you took some measurements, which are shown on the diagram. Find AC to the nearest tenth of a kilometre. [App: /4], [C: /1]



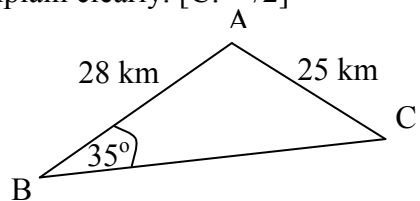
2. Solve the triangle shown at right. [App:

/4]



Part D- Communication

23. Which law is to be used to solve the following triangle? Explain clearly. [C: /2]



Part C- Thinking/Inquiry

19. A weather balloon is tethered to a rope that is 545 metres long. The rope is attached to the ground.

[C: /2] a) Draw a fully labeled diagram

[TIPS: /3] b) What is the angle of elevation of the balloon, when it is 400 metres high?

[C: /1]

[TIPS: /3] c) What is the horizontal distance to a rock which is, at the moment in question, right underneath the balloon? What do you have to assume about the rope in this question?

[C: /2]