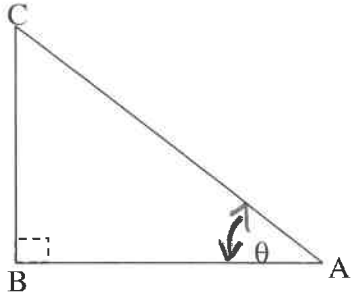## SENIOR 1 TRIGONOMETRY TEST

Calculators required
Show work for best marks. All questions are worth 2 marks.

PART A.   Fill in the blanks.

1) In $\triangle ABC$ identify each side of the right-angled triangle relative to θ (ie: whether it is Opposite, Adjacent, or a Hypotenuse side)

Side a _____

Side b _____

Side c _____

2) Using $\triangle ABC$ above, state the **3 trigonometric ratios** in terms of a,b, and c.

$\cos \theta =$ _____ $\sin \theta =$ _____ $\tan \theta =$ _____

ie ∠A   ∠A

PART B   Calculate each of the following. (round to 2 decimal places)

1) $\sin 20° =$ 2) $\cos 20° =$ 3) $\tan 65° =$

4) $3*(\cos 19°) =$ 5) $5 (\sin 38°) =$ 6) $\dfrac{3(\tan 42°)}{8} =$

PART C.   Find the measure of each unknown angle to the nearest whole degree

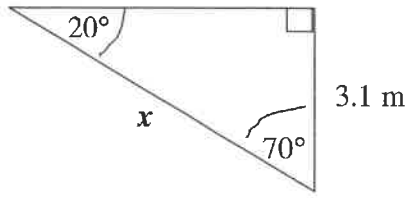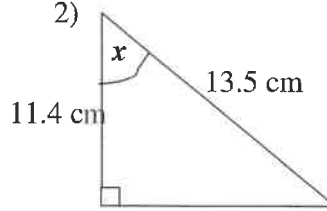1) $\tan (A) = 0.7149$ 2) $\cos (\theta) = 0.1025$

3) $\sin (B) = 0.5678$ 4) $\tan (\alpha) = 0.5613$

PART D.   **Find the value of x** in 4 out of the 6 of the following right-angle triangles (*round all answers to 2 decimal places*). **Show all your steps. Do 2 odd and 2 even numbered questions!**
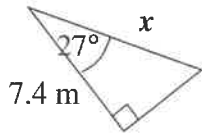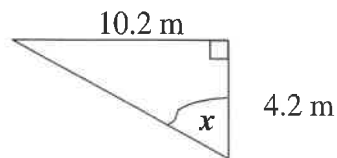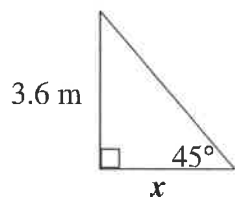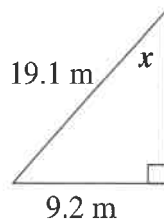
1)

20°

3.1 m

x

70°

2)

x

13.5 cm

11.4 cm

3)

27°

x

7.4 m

4)

10.2 m

x

4.2 m

5)

3.6 m

45°

x

6)

19.1 m

x

9.2 m

MA20S
GRADE 10 MATHEMATICS
UNIT G: TRIGONOMETRY TEST Practice

Name: _____
Date: _____

All questions worth two marks
Show work for best marks
Keep answers exact where possible, otherwise round to three decimal places.
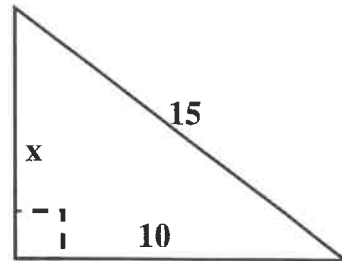Calculators are permitted
One page of reference notes is allowed.

1. **Complete the table**.

Round angles to the nearest degree. Round trig ratios to the nearest 0.001. The first entry is done for you.
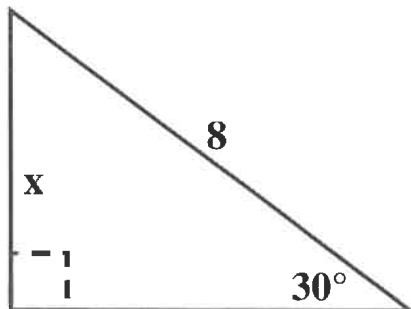
Angle θ [°]	Cos of Angle θ
30°	0.866
45°	
72°	
	0.553
85°	
	0.777
	1/2
60°	
	$\sqrt{2}/2$

2. Find the value of side x.
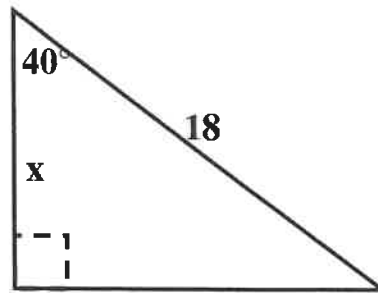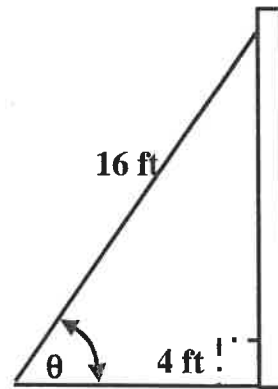

3.

Find the value of side x.

4.   Find the value of side x.

5.   Curtis is leaning a **16 foot** ladder up against his house. He puts the base of the ladder **four feet** from the base of the house. What angle, θ, does the ladder make with the ground?

PART E. Solve each of the following word problems.. Use the steps for solving word problems (*round each answer to 1 decimal place*). SHOW ALL YOUR STEPS.

1)   A 8 m ladder leans against a vertical wall at an angle of 68° measured at the foot of the ladder.

    a. Calculate the height the ladder reaches up the wall.

    b. Calculate the distance from the foot of the ladder to the wall.

2)   To measure the height of clouds, or '*cloud ceiling*' at night, airport controllers shine a light **vertically**. They measure the **angle of elevation** of the spot of light on the bottom of the clouds to be 63°. If they are standing 300 metres away from the light, how high are the clouds?