GRADE 11 ESSENTIAL
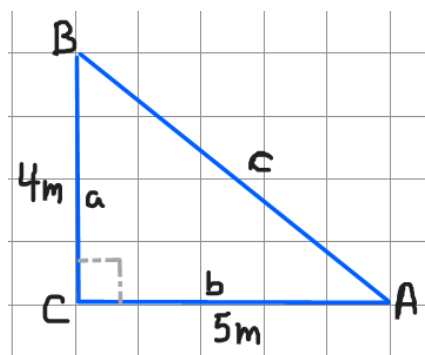**UNIT G – TRIGONOMETRY**
REVIEW FROM GRADE 10 ESSENTIAL

Name:_____
Date: _____

This is a *quick review* of the skills you acquired in Grade 10 Essential Trigonometry. **Answers** at end. '**Cheat Sheet**' notes provided also at end. Show work of course so you ensure you are doing it correctly. **Write** the formula, then **plug in** the numbers, then **solve**.

Round to nearest 0.01 for decimal numbers, round to nearest 0.1 for degrees. Diagrams are not necessarily drawn to scale! So, measuring with a ruler or protractor is useless.
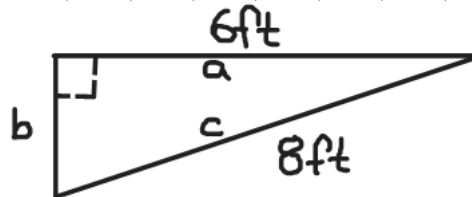
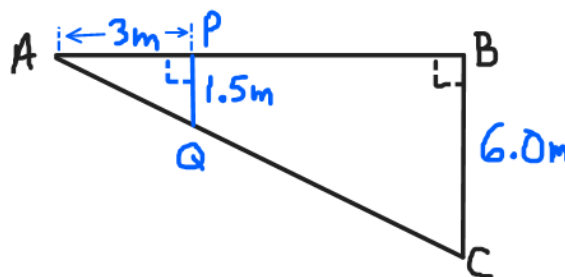1. Pythagoras (given two short legs)

Determine length *c*.
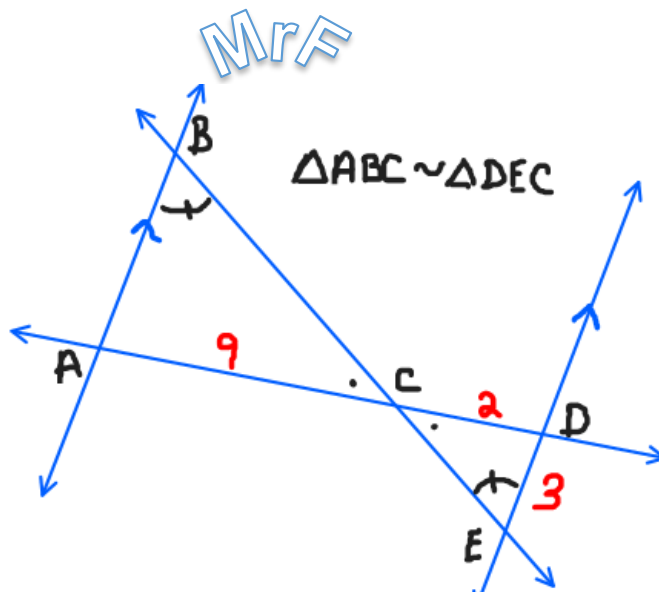
2. Pythagoras (given hypotenuse)

Determine length b

3. Triangles ABC and APQ are similar.   [ie : ΔABC ~ ΔAPQ]

    a. Determine length $\overline{AB}$
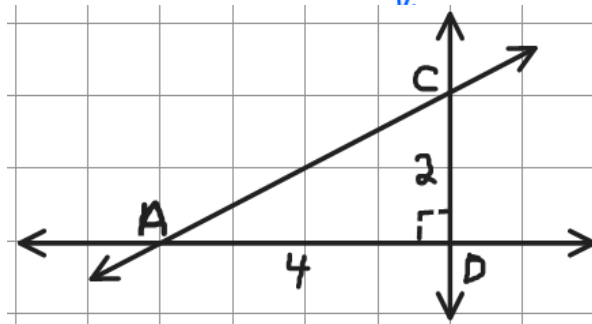
    b. Determine length $\overline{AC}$

MrF

4. Triangles ABC and DEC are similar. [ie : △ABC ~ △DEC]

△ABC~△DEC

Determine Length $\overline{AB}$
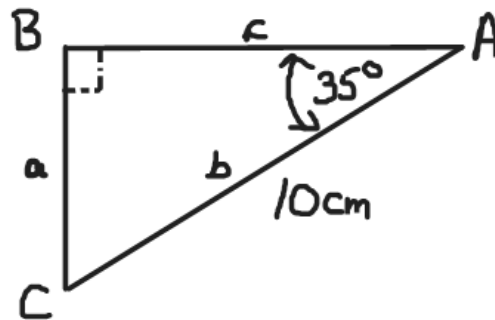
5. *Calculate* the measure of ∠CAD.

6. Determine the length of:
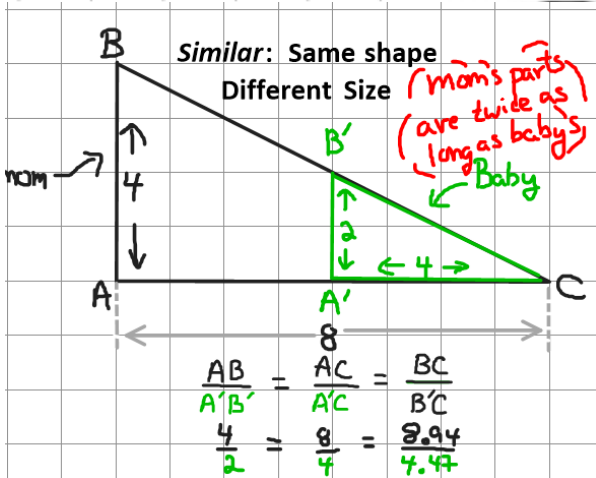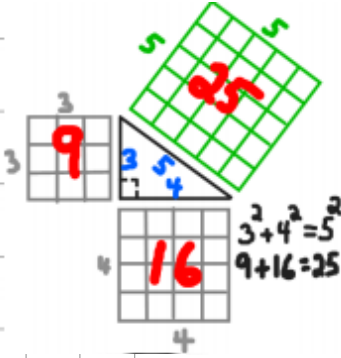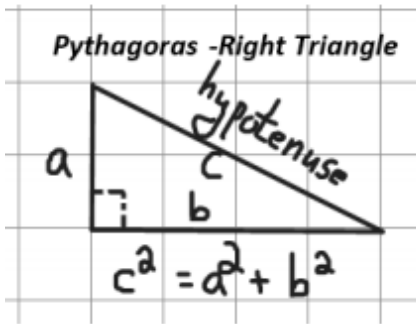
   a. side a

   b. side c

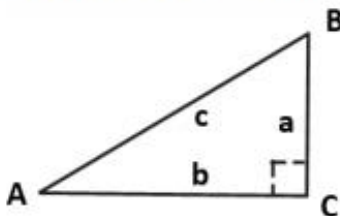**ANSWERS**:

1. 6.40m   2. 5.29   3a. 12 m   3b. 13.42 m
4. 13.5 units   5. 26.57°   6a. 5.74 cm   6b. 8.19 cm

MrF

CHEAT SHEET NOTES FROM GRADE 10

Pythagoras -Right Triangle

hypotenuse

a C b

$c^2 = a^2 + b^2$

$3^2 + 4^2 = 5^2$
$9 + 16 = 25$

B

Similar: Same shape
Different Size

(mom's parts are twice as long as baby's)

mom → 4 B' Baby

2   ← 4 → C

A A' 8

$$\frac{AB}{A'B'} = \frac{AC}{A'C} = \frac{BC}{B'C}$$

$$\frac{4}{2} = \frac{8}{4} = \frac{8.94}{4.47}$$

Unit E – Trigonometry

SOH CAH TOA. $sinA = \frac{side\ opp\ to\ \angle A}{hypotenuse}$; $cosA = \frac{side\ adjacent\ to\ \angle A}{hypotenuse}$; $tanA = \frac{side\ opp\ to\ \angle A}{ide\ adj\ to\ \angle A}$

B c a A b C

$sinA = \frac{a}{c}$ $sinB = \frac{b}{c}$

$cosA = \frac{b}{c}$ $cosB = \frac{a}{c}$

$tanA = \frac{a}{b}$ $tanB = \frac{b}{a}$

adj θ $cos\theta = \frac{Adj}{Hyp}$
hyp

$cos\theta = \frac{4}{7} \cong 0.5714$
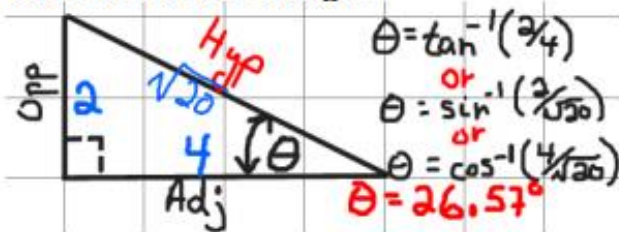$\theta = cos^{-1}(\frac{4}{7}) \cong 55°$

Hypotenuse side is always across from the 90° corner.
If know two parts of a right triangle, can figure out the rest.
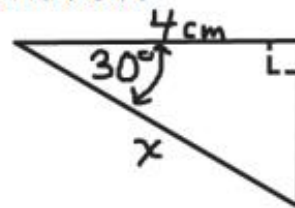**Handy rule**: longest side across from biggest angle, smallest side across from smallest angle.
Round trig ratios to nearest 0.0001 normally

To find measure of angle:

Opp   2   Hyp $\sqrt{30}$ θ   4   Adj

$\theta = tan^{-1}(\frac{2}{4})$
or
$\theta = sin^{-1}(\frac{2}{\sqrt{30}})$
or
$\theta = cos^{-1}(\frac{4}{\sqrt{30}})$
$\theta = 26.57°$

To find a side:

4 cm
30°   L
x

$cos 30° = \frac{4}{x}$
$cos 30° = \frac{4}{x}$
$x = \frac{4}{cos\ 30°}$
$x = 4.62 cm$