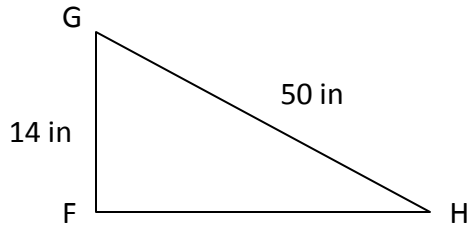


Assignment 4
Section 2.1 – 2.3

Name: _____

1. Find Tan G and Tan H. (You will have to use Pythagorean theorem to find FH.)



Tan G =

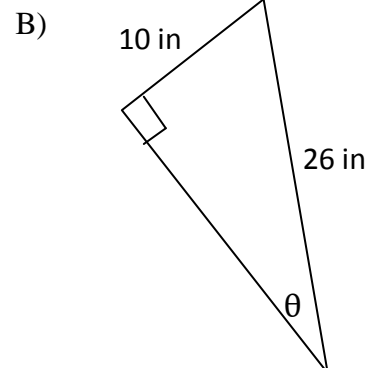
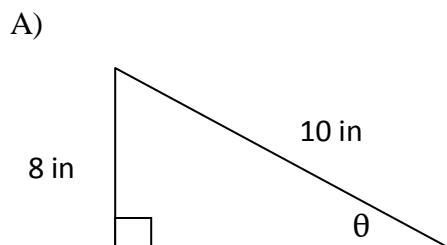
Tan H =

2. Using your ratios above, find the measure of $\angle G$ and $\angle H$ to the nearest degree.
3. Draw the respective triangles using centimeters as your scale. (For example, if $\tan X = 20$, this means the side opposite $\angle X$ is 20 times larger than the adjacent side.)

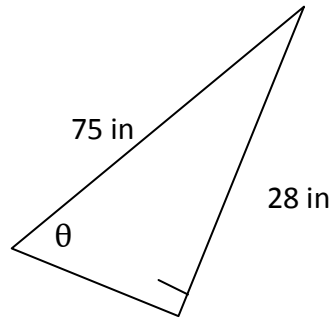
$\triangle DEF$ where $\tan F = 4$

$\triangle FTY$ where $\tan F = 0.5$

4. Write the tangent of the indicated angle. Using the tangent ratio, determine the value of the indicated angle to the nearest degree. (You may have to use the Pythagorean Theorem to find the missing leg first. Also, if you are finding the angle, you must use InvTan or Tan^{-1} .)

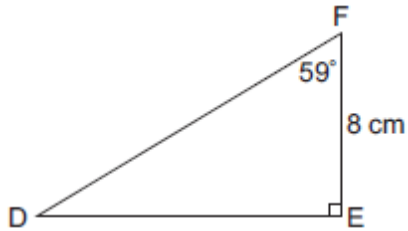


C)

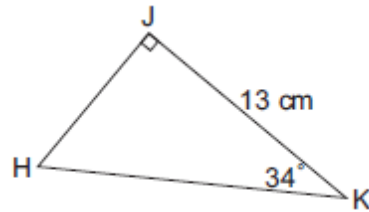


5. Write an equation for the tangent ratio for the indicated angle. Find the length of each indicated side to the nearest tenth of a centimetre.

a) Side ED

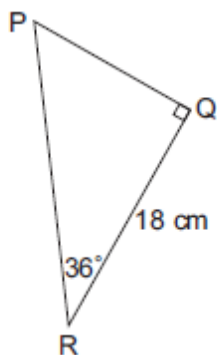


b) Side HJ

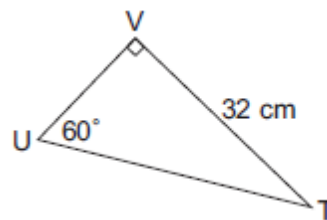


6. Find the length of the indicated side to the nearest tenth of a centimetre.

a) Side PQ



b) Side UV



6 Explain in your own words why the $\tan 45^\circ = 1$.

7 Explain in writing why the $\tan 70^\circ$ must be greater $\tan 30^\circ$. Use diagrams if needed.

- 8 The grade inclination of a road is 28%. Calculate the angle of inclination to the nearest degree. Draw a diagram to indicate the angle as well.
- 9 A ladder leans against a house. The top of the ladder is 2.4 m above the ground. Its base is 0.9 m from the wall. What angle, to the nearest degree, does the ladder make with the ground?
10. One of the ski lifts at Marble Mountain NL is 1500 m long. It rises vertically for 475 m. Draw a diagram and use it to determine the angle of inclination to the nearest degree.
11. A rope supports a tent. The angle between the rope and the level ground is 59° . The rope is attached to the ground 1.2 m from the base of the tent. At what height above the ground is the rope attached to the tent? Give your answer to the nearest tenth of a metre.
- 12 You are 185 cm tall. Currently you are standing 2000 cm from the base of a light poll. You determined the angle of inclination is $\theta = 30^\circ$. Determine the height of the poll using the tan ratio and the diagram below to the nearest tenth of a centimeter.

