

# Lesson 8-12 : Slope and Mixed Practice

Agenda - Check HW 8-11

Notes 8-12

Quiz

#1, 2, 4, 6, 7, 8, 9, 10

HW - 8-12 - Finish Packet

13, 14,

Test - 3/30

NO 3, 5, 11, 12  
16, 19, 20

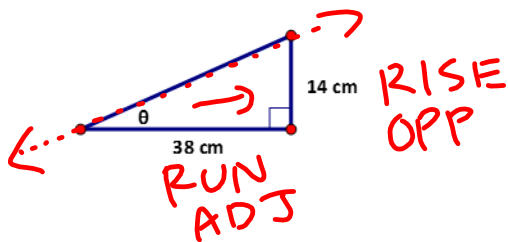
15, 17  
18

Geometry + LAB

Name \_\_\_\_\_ Date \_\_\_\_\_ Section \_\_\_\_\_

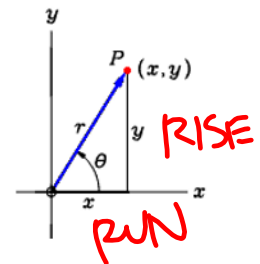
8-10R/8-12LAB Slope & Mixed Practice

A student who did very well in Algebra 1 looked at this trigonometry problem, and said "What a minute, tangent is the same as slope!!" Why would she say this? How is tangent the same as slope?

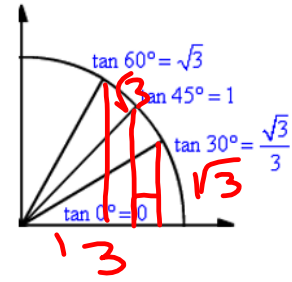


$$\text{TAN } \theta = \frac{\text{OPP}}{\text{ADJ}}$$

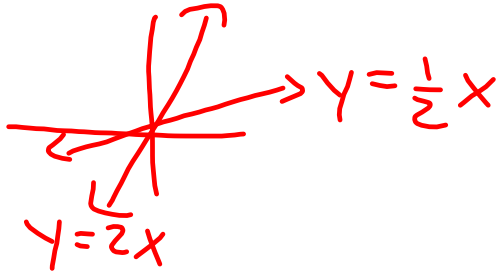
$$\text{TAN } \theta = \frac{14}{38}$$



- Look at Quadrant I of the unit circle and draw the right triangle for each angle measure. Compare  $\frac{\text{rise}}{\text{run}}$ . What is happening with the slope as the angle measure increases?

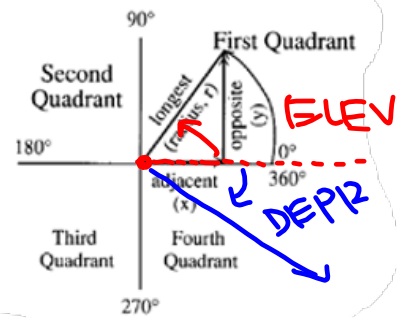


**SLOPE IS STEEPER**

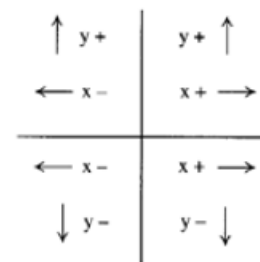
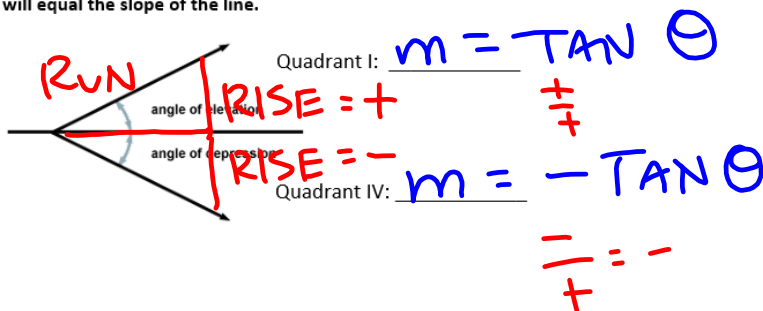


- What happens when we move the angle down into Quadrant IV?

**NEGATIVE SLOPE**



Therefore,  $\pm$  the tangent of a reference angle will equal the slope of the line.



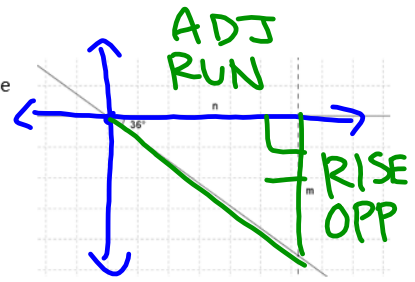
Radius always +  
 $r^2 = x^2 + y^2$

Example 1: A line on the coordinate plane makes an angle of depression of  $36^\circ$ . Find the slope of the line, correct to four decimal places.

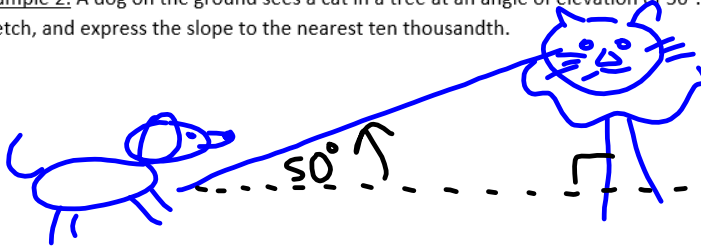
✓ ~~4~~ OF DEPRESSION

$$- \tan 36^\circ = m$$

$$\boxed{-0.7265} = \text{SLOPE}$$



Example 2: A dog on the ground sees a cat in a tree at an angle of elevation of  $50^\circ$ . What is the slope of the line? Draw a sketch, and express the slope to the nearest ten thousandth.



$$m = + \tan 50^\circ$$

$$+ \boxed{1.1918} = m$$

SLOPE

## Attachments

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Bridge to 8.docx

Quiz 1 L.pdf