

Name \_\_\_\_\_

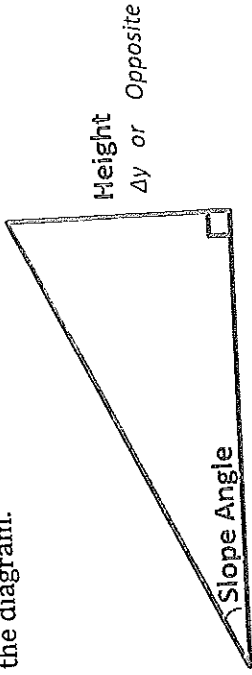
### SLOPE RATIOS AND TANGENT

1. For each triangle below, use the grid to count the height and base lengths. Label the lengths on the diagram.

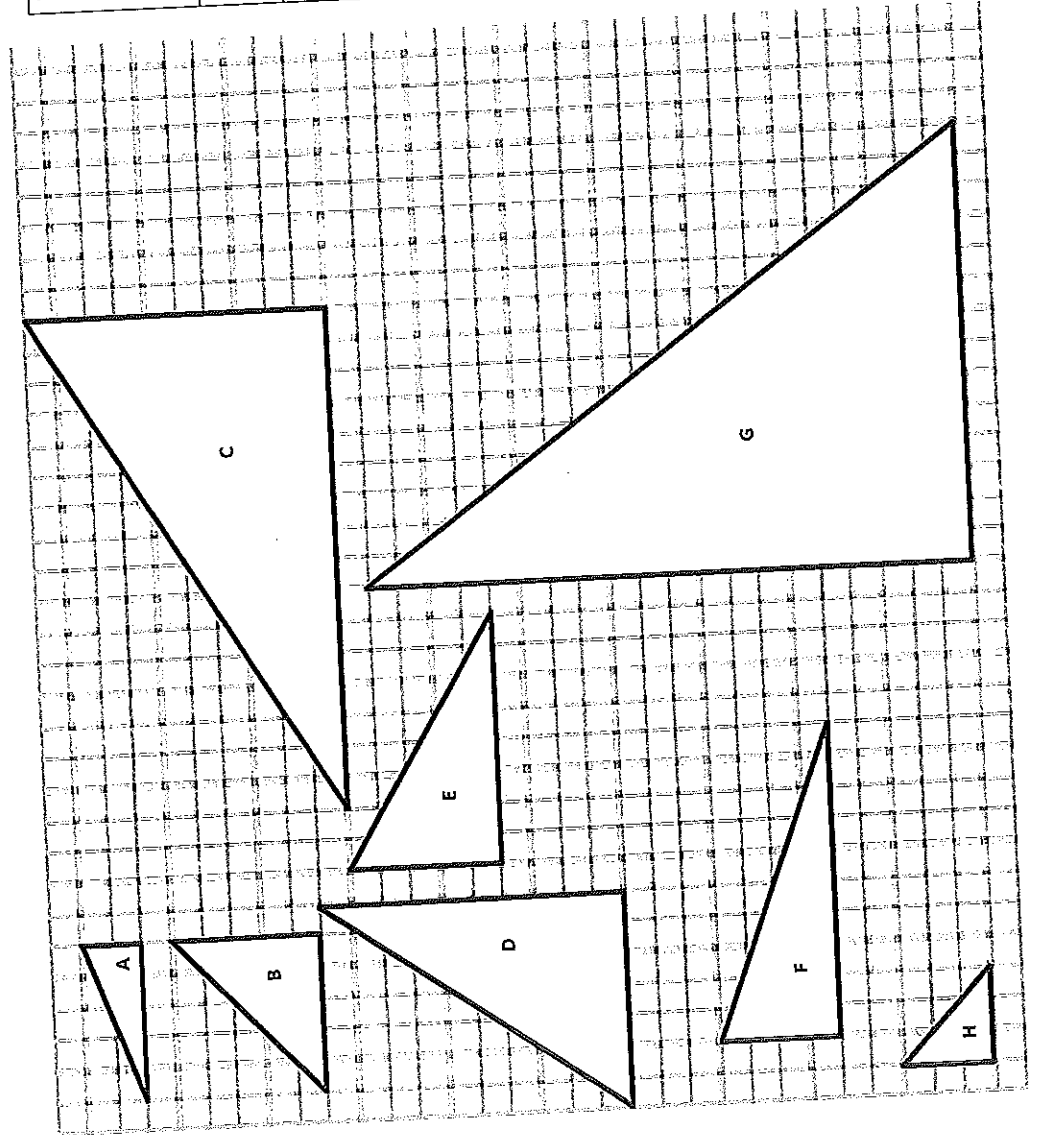
2. Write the slope ratio  $\left(\frac{\text{height}}{\text{base}}\right)$  in the table below.

3. Divide each slope ratio to get the decimal value.

4. Are any of the triangles similar? If so, list them here and explain how you know.



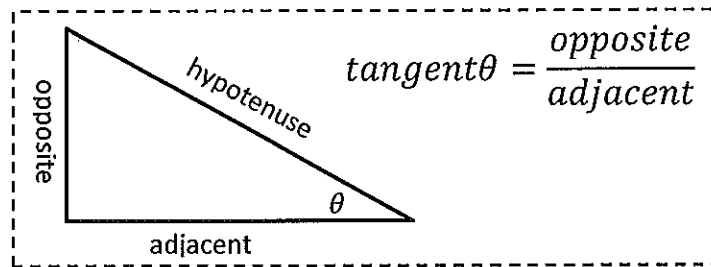
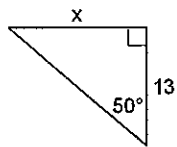
Triangle	Slope Ratio As fraction $\frac{\text{Height } \Delta y}{\text{Base } \Delta x}$	Slope Ratio As decimal	Slope Angle	Tangent of the Angle
A	$\frac{2}{5}$	0.4	22°	
B				
C				
D				
E				
F				
G				
H				



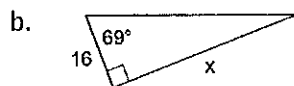
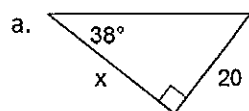
For each problem below, sketch the triangle, set up an equation, and solve for the missing dimension.

1. A right triangle has a slope angle of  $22^\circ$ . The base of the triangle is 15 units. What is the height of the triangle?
2. A right triangle has a slope angle of  $45^\circ$ . Its height is 12 inches. How long is the base?
3. A right triangle has a slope angle of  $55^\circ$ . Its base is 28 units. What is its height?
4. A right triangle has a slope angle of  $32^\circ$ . Calculate the length of the base if its height is 25 feet.

Example:



You Try:



c. Write yourself a note explaining the process of using the tangent.

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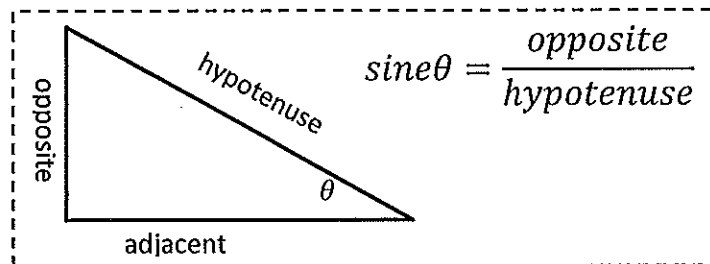
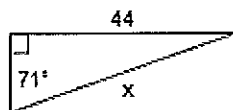
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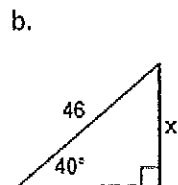
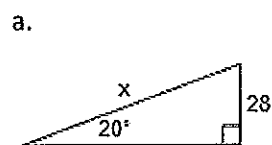
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Example:



You try



c. Write yourself a note explaining the process of using the sine.

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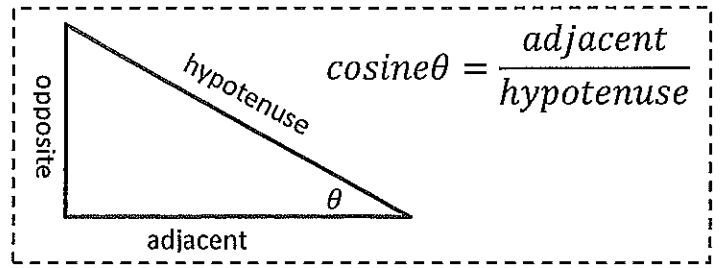
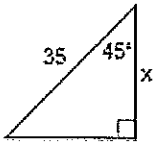
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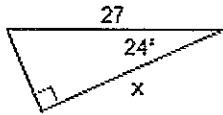
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Example:

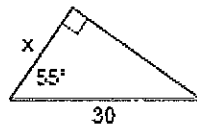


You try

a.



b.



c. Write yourself a note explaining the process of using the cosine.

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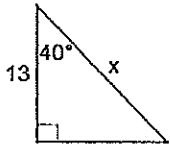
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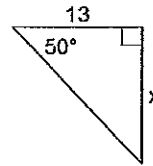
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Mixed Practice:

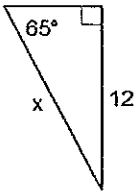
1)



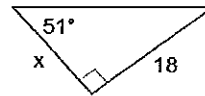
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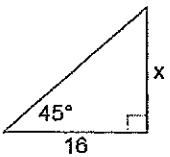
3)



4)



5)



6)

