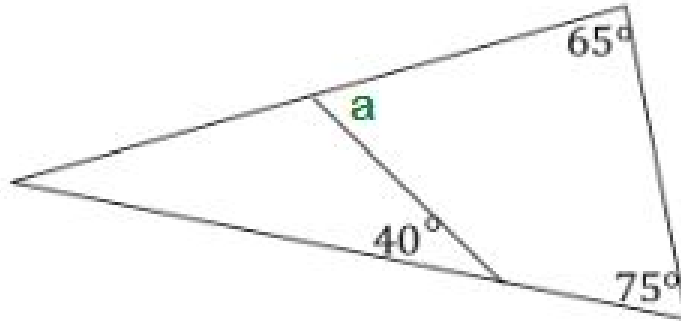


Fundamental Geometry and Similarity

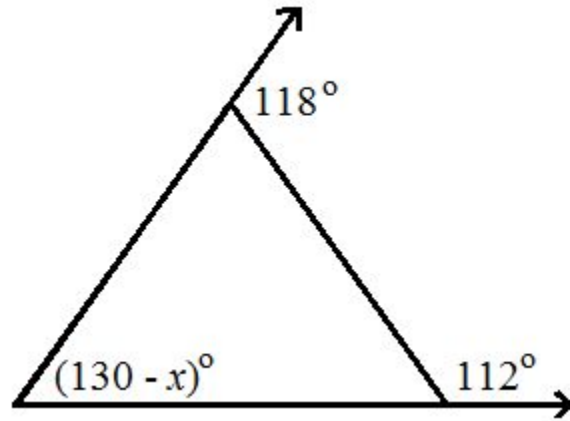
Practice Problems

1) What is the value of a ?



- a) $a = 40^\circ$
- b) $a = 80^\circ$
- c) $a = 90^\circ$
- d) $a = 140^\circ$

2) What is the value of x ?



a) $x = 50^\circ$

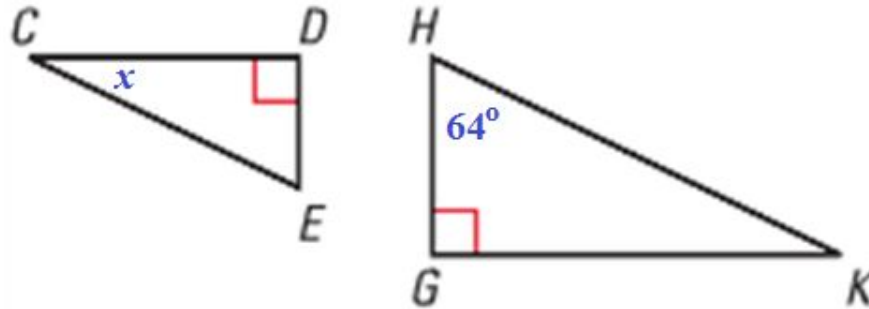
b) $x = 80^\circ$

c) $x = 100^\circ$

d) $x = 130^\circ$

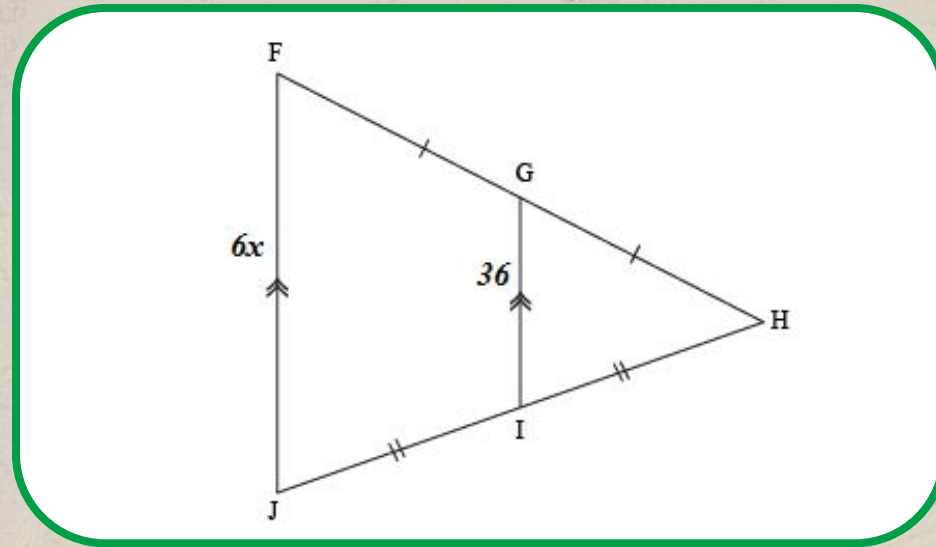
3) What is the value of x ?

If $\triangle CED \sim \triangle KHG$...



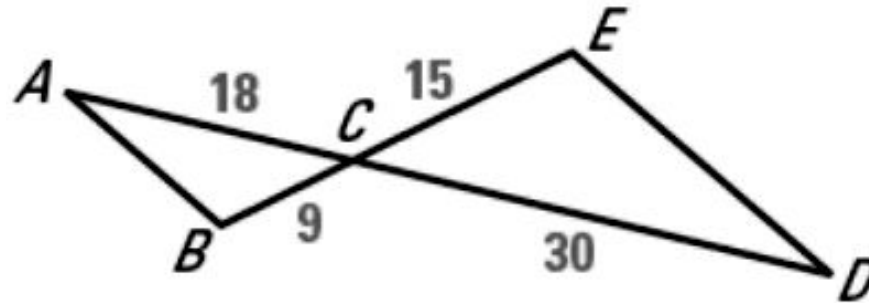
- a) $x = 90^\circ$
- b) $x = 64^\circ$
- c) $x = 26^\circ$
- d) $x = 116^\circ$

4) What is the value of x ?



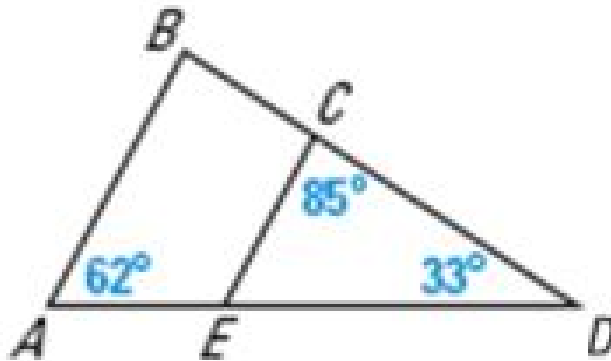
- a) $x = 3$
- b) $x = 6$
- c) $x = 12$
- d) $x = 30$

5) Are They Similar?



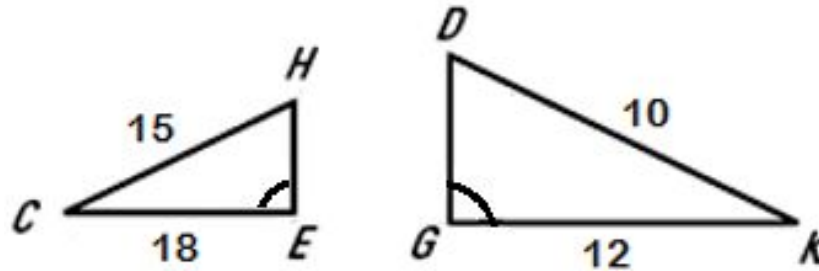
- a) The triangles are similar by SSS
- b) The triangles are similar by SAS
- c) The triangles are similar by AA
- d) There is not enough information to determine

6) Are They Similar?



- a) The triangles are similar by SSS
- b) The triangles are similar by SAS
- c) The triangles are similar by AA
- d) There is not enough information to determine

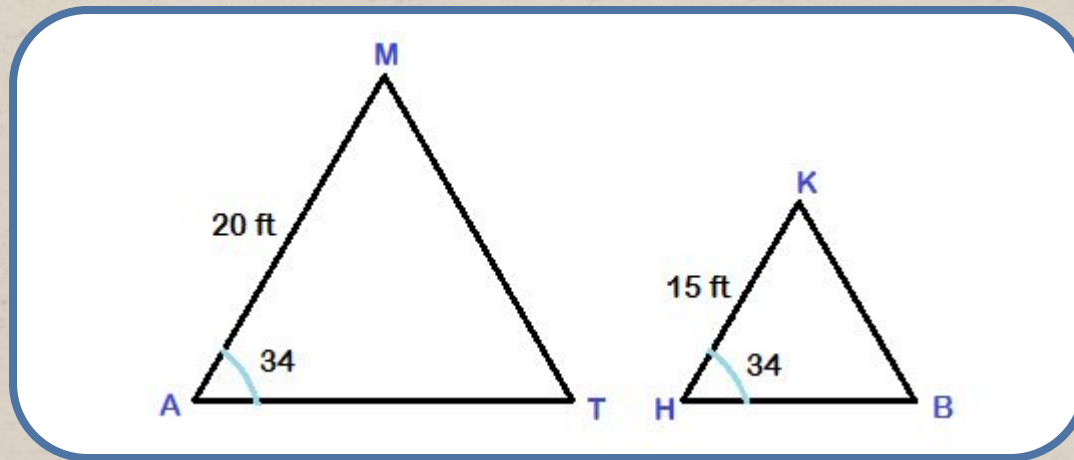
7) Are They Similar?



- a) The triangles are similar by SSS
- b) The triangles are similar by SAS
- c) The triangles are similar by AA
- d) There is not enough information to determine

8) If They Were Similar...

What further information do you need in order to determine the triangles are similar by SAS?



a) $\frac{20}{15} = \frac{MT}{KB}$

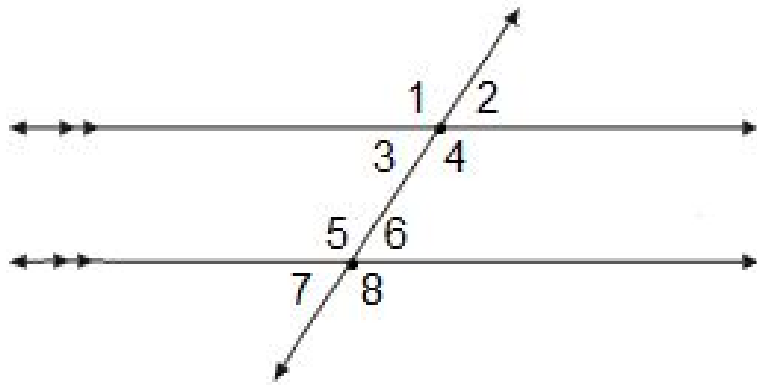
c) $\frac{20}{15} = \frac{AT}{HB}$

b) $m\angle T = m\angle B$

d) $m\angle M = m\angle K$

9) What is the value of x ?

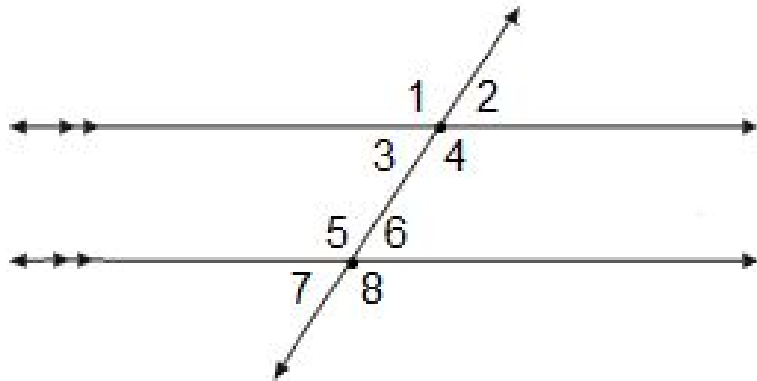
In the figure below, $\angle 1 = 4x^\circ$ and $\angle 7 = 76^\circ$



- a) $x = 18$
- b) $x = 19$
- c) $x = 26$
- d) $x = 100$

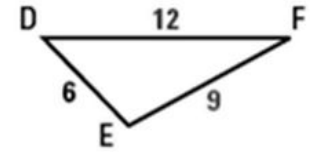
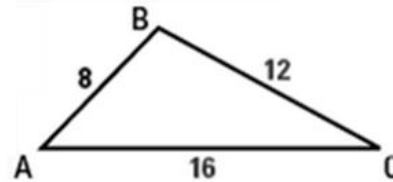
10) What is $m\angle 2$?

In the figure below,
 $\angle 3 = (4x + 17)^\circ$ and $\angle 6 = (6x - 13)^\circ$



- a) $m\angle 2 = 15^\circ$
- b) $m\angle 2 = 60^\circ$
- c) $m\angle 2 = 77^\circ$
- d) $m\angle 2 = 180^\circ$

11) Which proof is correct?



Prove that $\Delta ABC \sim \Delta DEF$.

Given: $AB = 8, BC = 12,$
 $AC = 16, DE = 6, EF = 9, DF = 12$

Sides are
proportional

$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{CA}{FD}$$

SSS

$\Delta ABC \sim \Delta DEF$

Given: $AB = 8, BC = 12,$
 $AC = 16, DE = 6, EF = 9, DF = 12$

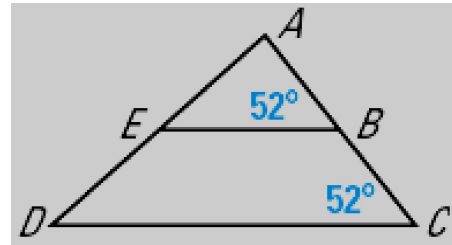
Sides are
proportional

$$\frac{AB}{EF} = \frac{BC}{DE} = \frac{CA}{FD}$$

SSS

$\Delta ABC \sim \Delta DEF$

12) Complete
the proof!



Prove that $\triangle ABE \sim \triangle ACD$.

