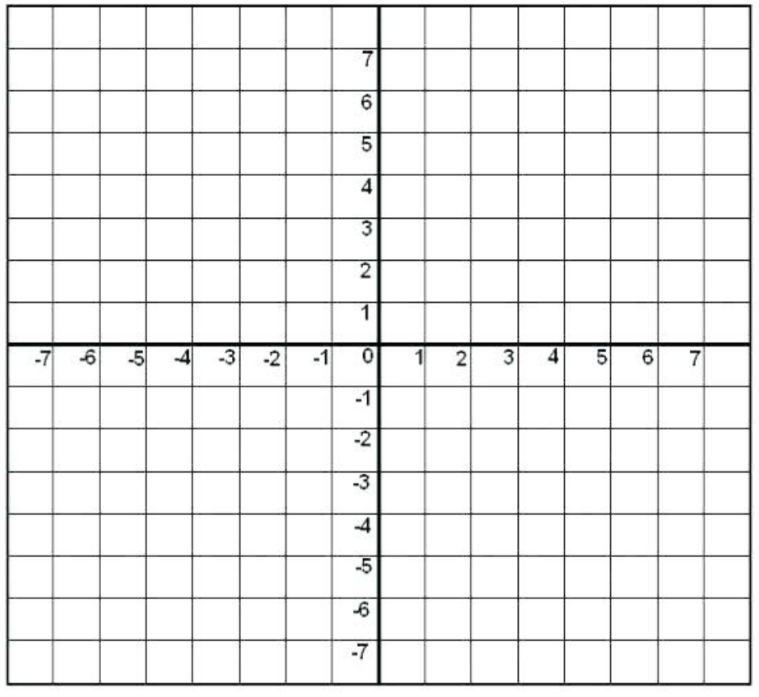

7
6
5
4
3
2
1
-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7
-1
-2
-3
-4
-5
-6
-7

2&3Oct Bellwork

(on half sheet of paper to turn in)

1. $\frac{2}{3} = \frac{8}{x}$ $x = 12$

2. $\frac{9}{10} = \frac{k+3}{4}$ $k = \frac{3}{5}$

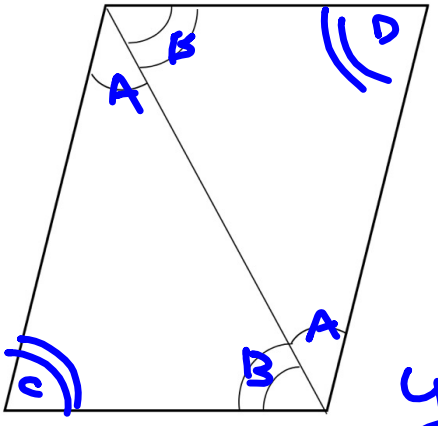
$36 = 10(k+3)$
$36 = 10k + 30$
$6 = 10k \rightarrow \frac{6}{10} = k$

3. Define "proportion". (The word "ratio" or "scale factor" might be of use)

Equation that equates (set equal) two ratios

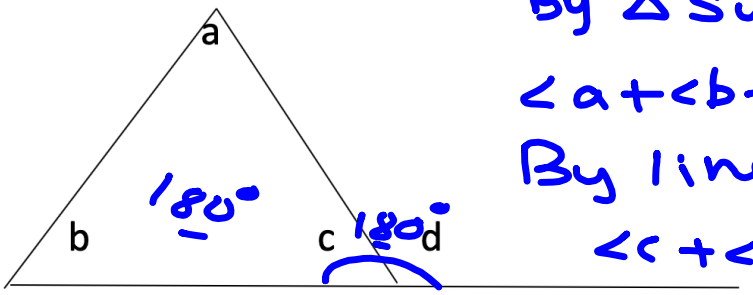
(comparison of two quantities by division)

23. Is there enough information to determine if this is a parallelogram? Justify your answer.



By Δ Sum theorem,
$m\angle C + m\angle B + m\angle A = 180°$
$m\angle A + m\angle B + m\angle D = 180°$
$\angle C + \angle B + \angle A = \angle A + \angle B + \angle D$
$\angle C = \angle D$
Yes; opposite angles are $\cong$.

24. Explain, using definitions and theorems, why $m < a + m < b = m < d$

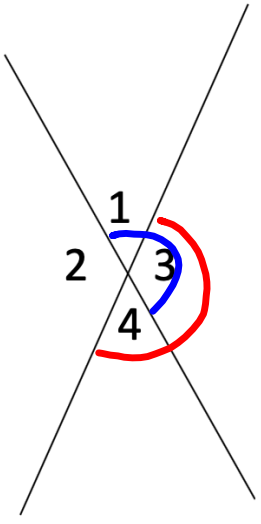


By $\triangle$ sum thm,
$\angle a + \angle b + \angle c = 180°$
By linear pair,
$\angle c + \angle d = 180°$

Thus $\angle a + \angle b + \angle c = \angle c + \angle d$

✓ $\angle a + \angle b = \angle d$

25. Prove the Vertical Angle Theorem by showing that $\angle 1 \cong \angle 4$



By linear pairs,

$m\angle 1 + m\angle 3 = 180°$

$m\angle 3 + m\angle 4 = 180°$

$m\angle 1 + m\angle 3 = m\angle 3 + m\angle 4$

$m\angle 1 = m\angle 4$

$\angle 1 \cong \angle 4$

What does "similar" mean in geometry?

If I say, "these two rectangles are similar", what do I mean?

Same

Shape

Same <'s

Related by K

Different

Size - side length

↓

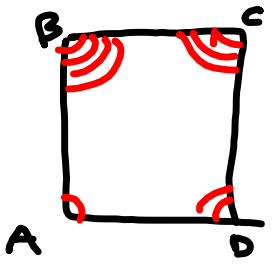
Related by K

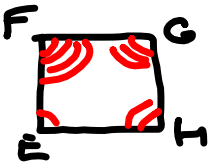
Definitions:

similar polygons: polygons having corresponding sides proportional and corresponding angles equal

~ vs ≅

$\square ABCD \sim \square EFGH$



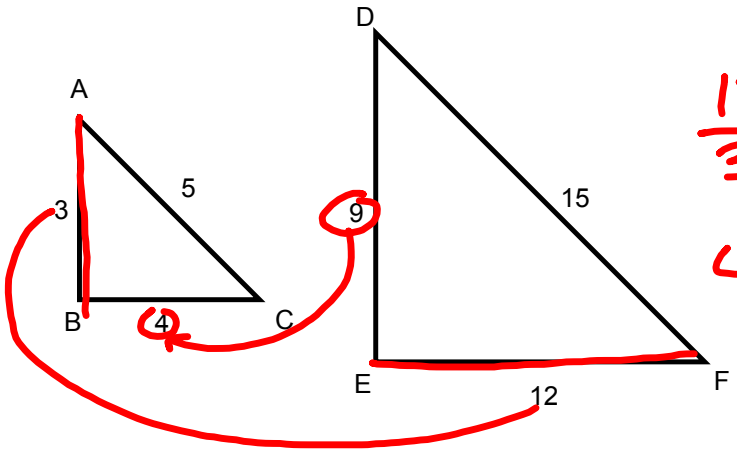


$\frac{AB}{EF} = \frac{BC}{FG}$

similarity statement: Statement which defines two similar figures. For example, $\triangle ABC \sim \triangle DEF$

~ ≅

proportion: ~~related by a common ratio~~ equation that equates 2 ratios

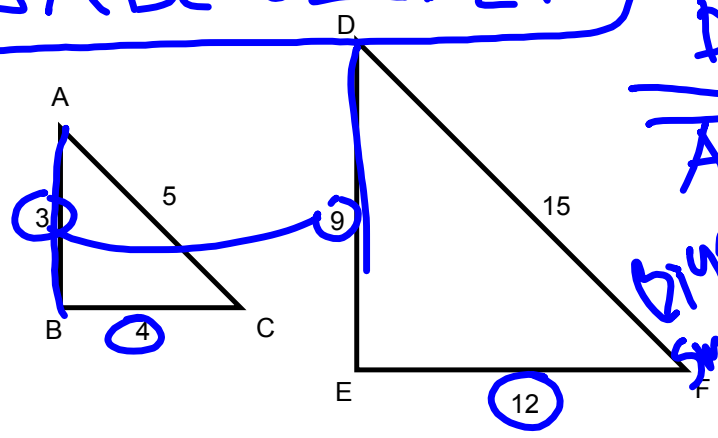


$\frac{12}{3} = \frac{9}{4}$

$4 \neq 2.25$

The triangles are similar.

$\triangle ABC \sim \triangle DEF$



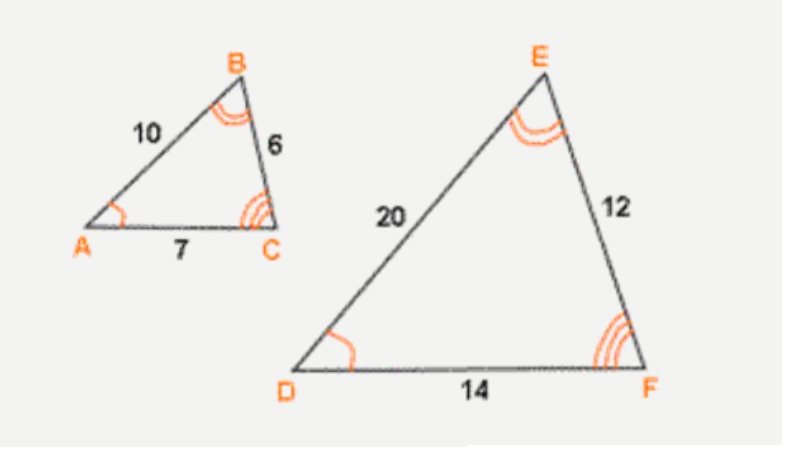
$\frac{DE}{AB} = \frac{9}{3} = 3$

Bigger / Small $\frac{9}{3} = \frac{12}{4}$ Bigger / Small

The triangles are similar. $3 = 3$

Ratio = 3

Proportion: an equation that equates two ratios



$$\frac{10}{20} = \frac{6}{12} \qquad \frac{20}{10} = \frac{12}{6}$$

$$10(12) = 20(6)$$

Create two similar triangles with these proportions, and solve for the unknown.

$$\frac{2}{3} = \frac{8}{?}$$

Write a similarity statement.

Create two similar triangles with these proportions, and solve for the unknown.

$$\frac{m}{3} = \frac{4}{8}$$

Write a similarity statement.

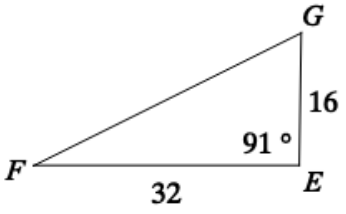
$$\frac{7}{8} = \frac{v+3}{v}$$

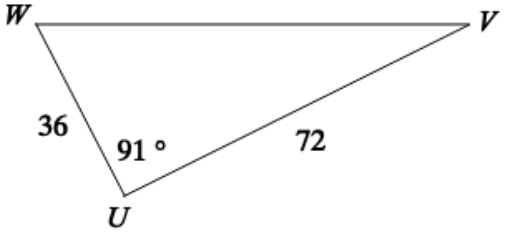
$$\frac{10x}{4} = \frac{2}{3}$$

$$\frac{9}{10} = \frac{k+3}{4}$$

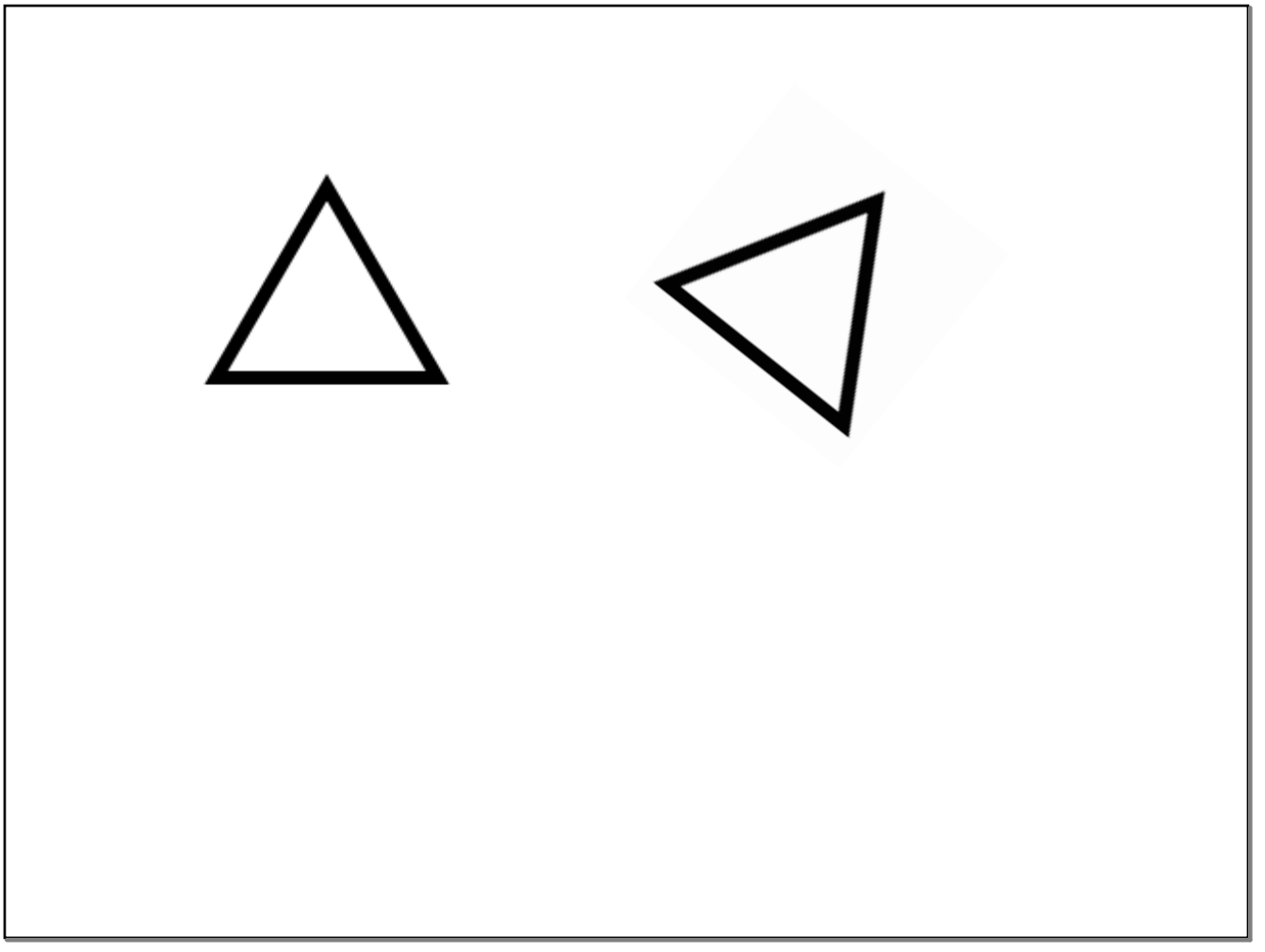
If △UVW is the pre-image, what is k?

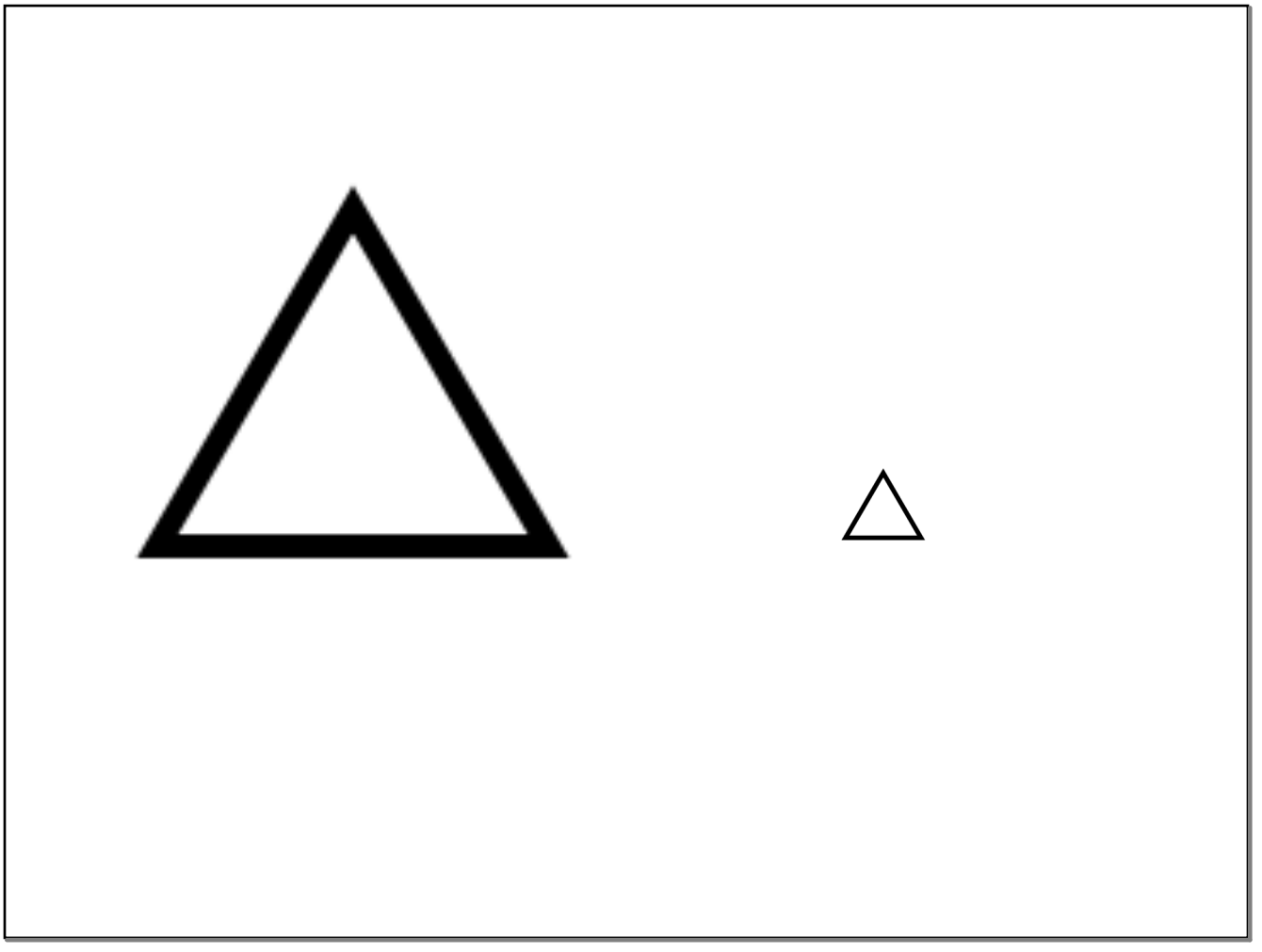
Let's set up our similarity statement to help us determine k.

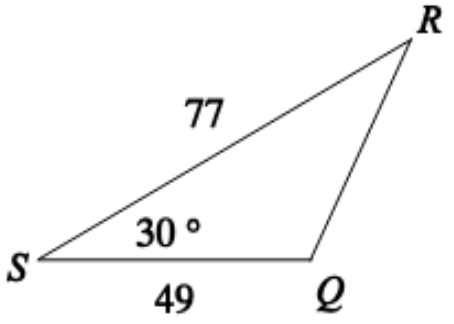


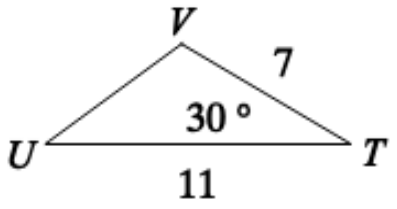


$\triangle UVW \sim$ _____

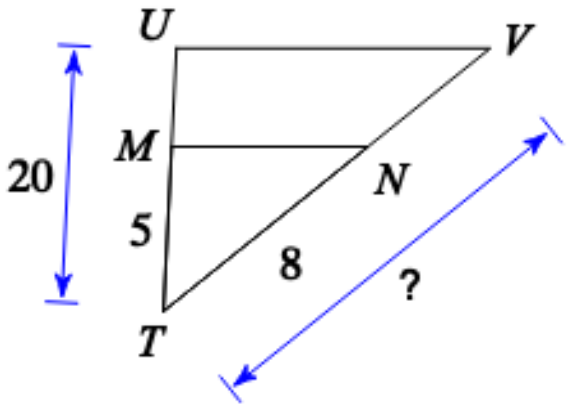




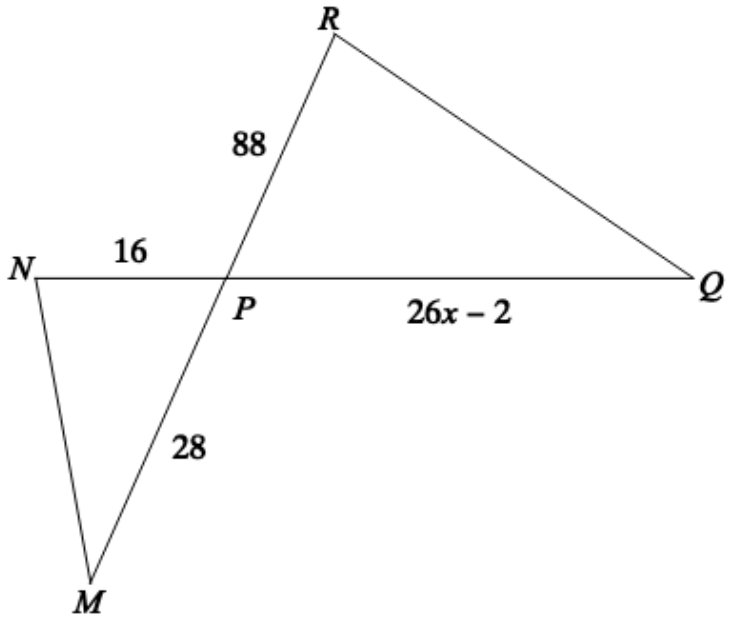




$\triangle SRQ \sim$ _____


U
V
M
N
20
5
8
?
T

$\triangle PQR \sim \triangle PMN$



$\triangle QRS \sim \triangle QDC$