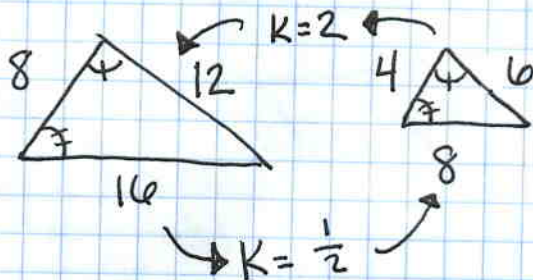


11.2 Similar triangles

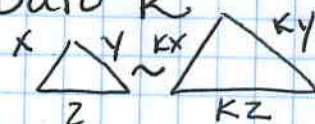
Similar triangles

- congruent corresponding angles
- Sides → all have scale factor k

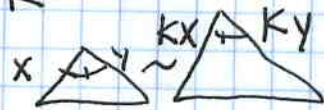


△ Similarity Conjectures

SSS → all 3 sides related by a scale factor k
congruent angles



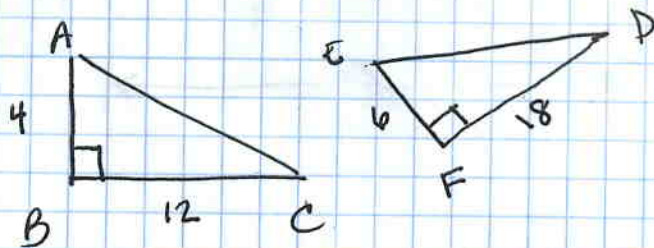
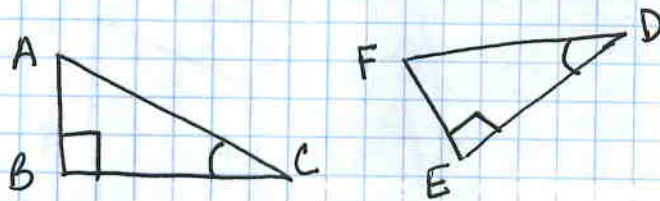
SAS → 2 sides related by a scale factor k
included angle \cong



AA → 2 angles of one \cong to the other



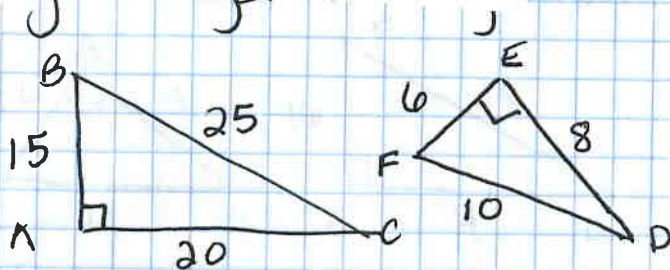
Are the triangles Similar?



$$\frac{4}{6} = \frac{12}{18} \text{ yes } \checkmark$$

SAS

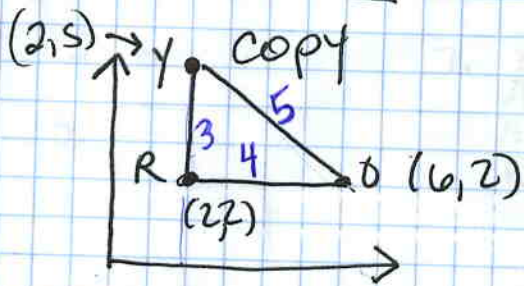
you try:



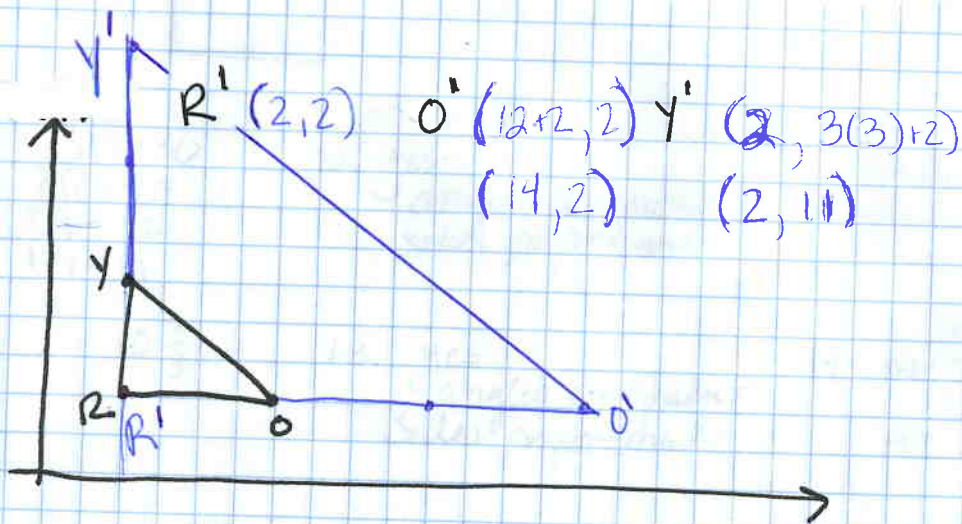
$$\frac{10}{25} = \frac{6}{15} \quad \frac{2}{5} = \frac{2}{5} \checkmark$$

$$\frac{10}{25} = \frac{8}{20} \quad \frac{2}{5} = \frac{2}{5} \checkmark$$

Dilation



Draw its dilation
by a scale factor of 3.
(BAFO)



perimeter of ROY

$$\frac{3+4+5}{12}$$

perimeter of R'O'Y'

$$\frac{3(4)+3(3)+5(3)}{12+9+15}$$

Ratio

$$1:3$$

↑ SF

Area of ROY

$$\frac{3 \cdot 4}{2} = \frac{12}{2} = 6$$

Area of R'O'Y'

$$\frac{108}{2} = 54$$

Ratio

$$1:9$$

$$\text{Area Ratio} = (\text{Perimeter Ratio})^2$$