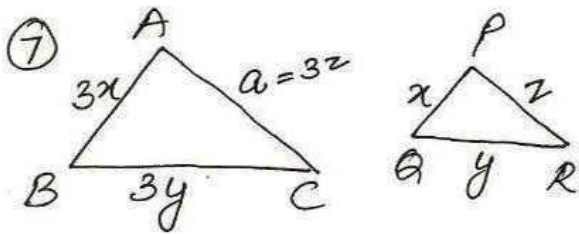


ex 6.2

- ⑥ No, in addition corresponding sides should be proportional.
 [Note: the case is true only for triangles, for all remaining polygons both conditions are required]



$$\frac{\text{Perimeter of } \triangle ABC}{\text{Perimeter of } \triangle PQR} = \frac{3}{1}$$

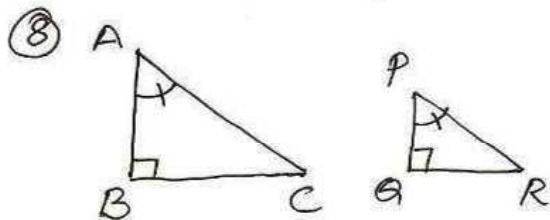
$$\frac{3x + 3y + a}{x + y + z} = \frac{3}{1}$$

$$\Rightarrow 3x + 3y + a = 3x + 3y + 3z$$

$$\Rightarrow a = 3z$$

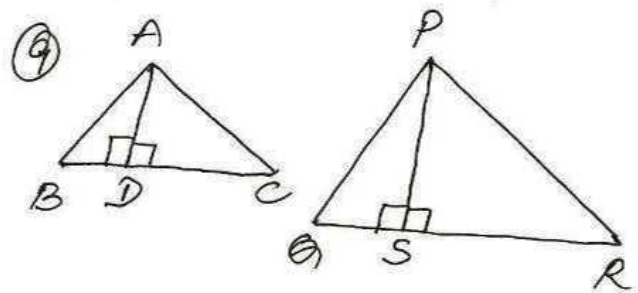
$$\frac{AB}{PQ} = \frac{BC}{QR} = \frac{AC}{PR} = \frac{3}{1}$$

$\Rightarrow \triangle ABC \sim \triangle PQR$
 True by SSS prop.



$\angle B = \angle Q = 90^\circ$
 $\angle A = \angle P$ (given)
 $\therefore \triangle ABC \sim \triangle PQR$
 by AA cor.

True



$$\triangle ABC \sim \triangle PQR$$

$$\Rightarrow \frac{\text{ar}(\triangle ABC)}{\text{ar}(\triangle PQR)} = \frac{AD^2}{PS^2}$$

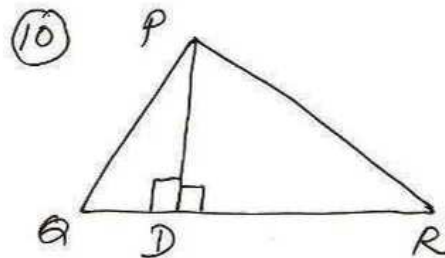
$$= \left(\frac{AD}{PS}\right)^2$$

$$= \left(\frac{3}{5}\right)^2$$

$$= \frac{9}{25}$$

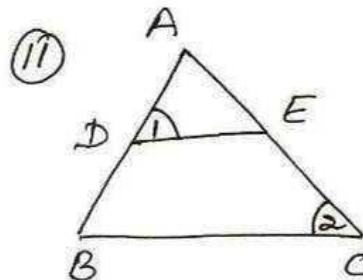
$$\neq \frac{6}{5}$$

False



Is $\triangle PAD \sim \triangle RPD$?

No.



$\triangle ADE \sim \triangle ACB$
 by AA cor. $\left[\begin{array}{l} \angle A = \angle A \\ \angle 1 = \angle 2 \end{array} \right]$