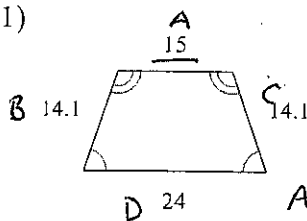


Similar Polygons

State if the polygons are similar.

1)



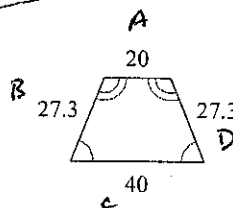
Arc Angles Congruent?  
Yes ✓

Arc Sides Proportional?

A)  $\frac{15}{5} = 3$  B)  $\frac{14.1}{4.7} = 3$   
 C)  $\frac{14.1}{4.7} = 3$  D)  $\frac{24}{8} = 3$

Yes, similar,  
all numbers (scale factors)  
match

2)



Arc Angles Congruent?  
Yes ✓

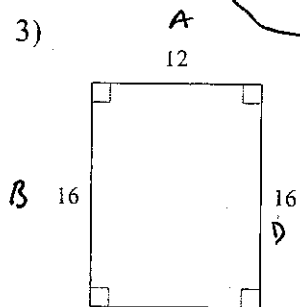
Arc Sides Proportional?

A)  $\frac{20}{23} = \frac{20}{23}$  B)  $\frac{27.3}{34.1} = \frac{273}{341}$   
 C)  $\frac{40}{48} = \frac{5}{6}$  D)  $\frac{27.3}{34.1} = \frac{273}{341}$

No, Not similar, b/c all  
numbers (scale factors)  
do not match

$\frac{20}{23} \neq \frac{5}{6} \neq \frac{273}{341}$

3)



Arc Angles Congruent?  
Yes ✓

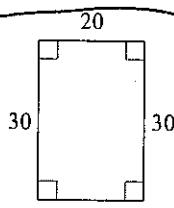
Arc Sides Proportional?

A)  $\frac{12}{6} = 2$  B)  $\frac{16}{5} = \frac{16}{5}$

C)  $\frac{12}{6} = 2$  D)  $\frac{16}{5} = \frac{16}{5}$

No, Not similar, b/c all  
scale factors do not  
match  $2 \neq \frac{16}{5}$

4)



Arc Angles congruent?  
Yes ✓

Arc Sides Proportional?

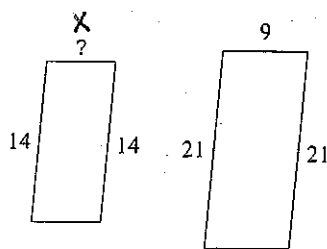
$\frac{20}{24} = \frac{5}{6}$

$\frac{30}{36} = \frac{5}{6}$

Yes, similar,  
scale factors  
match

The polygons in each pair are similar. Find the missing side length.

5)

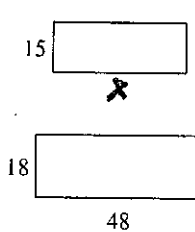


$\frac{x}{9} = \frac{14}{21}$

$21x = 126$

$x = 6$

6)

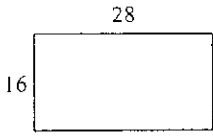


$\frac{15}{18} = \frac{x}{48}$

$\frac{18x}{18} = \frac{720}{18}$

$x = 40$

7)



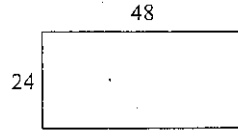
$$\frac{16}{12} = \frac{28}{x}$$



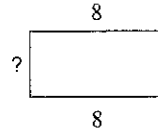
$$\frac{16x}{16} = \frac{336}{16}$$

$$\boxed{x=21}$$

8)



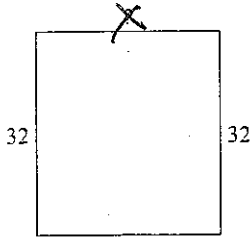
$$\frac{24}{x} \neq \frac{48}{8}$$



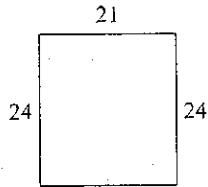
$$\frac{48x}{48} = \frac{192}{48}$$

$$\boxed{x=4}$$

9)



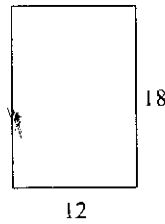
$$\frac{32}{24} = \frac{x}{21}$$



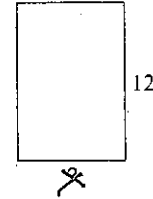
$$\frac{24x}{24} = \frac{672}{24}$$

$$\boxed{x=28}$$

10)



$$\frac{12}{x} = \frac{18}{12}$$

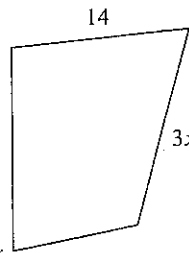
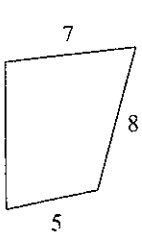


$$\frac{144}{18} = \frac{18x}{18}$$

$$\boxed{x=8}$$

Solve for x. The polygons in each pair are similar.

11)



$$\frac{7}{14} = \frac{8}{3x-8}$$

$$7(3x-8) = 112$$

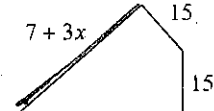
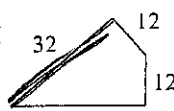
$$21x - 56 = 112$$

$$+56 \quad +56$$

$$\frac{21x}{21} = \frac{168}{21}$$

$$\boxed{x=8}$$

12)



$$\frac{32}{7+3x} \neq \frac{12}{15}$$

$$12(7+3x) = 480$$

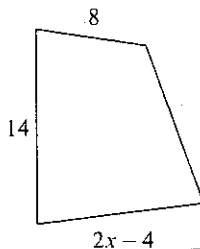
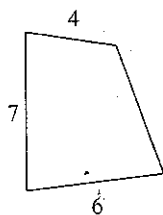
$$84 + 36x = 480$$

$$-84 \quad -84$$

$$\frac{36x}{36} = \frac{396}{36}$$

$$\boxed{x=11}$$

13)



$$\frac{7}{14} = \frac{6}{2x-4}$$

$$\rightarrow 7(2x-4) = 84$$

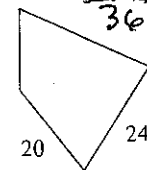
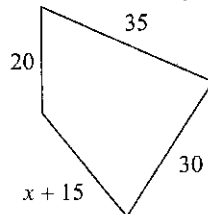
$$14x - 28 = 84$$

$$+28 \quad +28$$

$$\frac{14x}{14} = \frac{112}{14}$$

$$\boxed{x=8}$$

14)



$$\frac{x+15}{20} = \frac{30}{24}$$

$$24(x+15) = 600$$

$$24x + 360 = 600$$

$$-360 \quad -360$$

$$\frac{24x}{24} = \frac{240}{24}$$

$$x=10$$