

Ch 7 Test

Name Key

Class _____

26

Solve each proportion.

1) $\frac{8}{5} = \frac{k}{7}$

- A) {6} B) {2}
 C) {3} **D) $\left\{\frac{56}{5}\right\}$**

$\frac{8(7)}{5} = k$
 $\frac{56}{5} = k$

2) $\frac{r}{8} = \frac{4}{9}$

$r = \frac{4(8)}{9}$
 $= \frac{32}{9}$
 $= \boxed{3.56}$

3) $\frac{r+1}{8} = \frac{7}{9}$

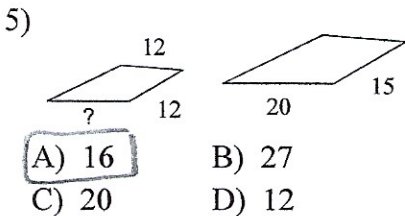
- A) {5.22}** B) {-1.7}
 C) {7.1} D) {7}

$9(r+1) = 7(8)$
 $9r + 9 = 56$
 $9r = 56 - 9$
 $9r = 47$
 $r = \frac{47}{9}$
 $r = \boxed{5.22}$

4) $\frac{9}{5} = \frac{a+5}{7}$

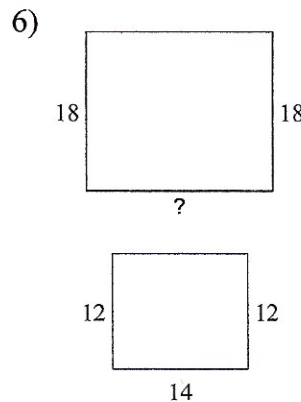
$9(7) = 5(a+5)$
 $63 = 5a + 25$
 $63 - 25 = 5a$
 $38 = 5a$
 $\frac{38}{5} = a$
 $\boxed{7.6} = a$

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



$\frac{X}{20} = \frac{12}{15}$

$15X = 12(20)$
 $15X = 240$
 $X = \frac{240}{15}$
 $X = \boxed{16}$



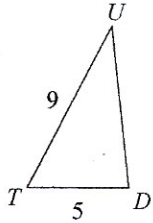
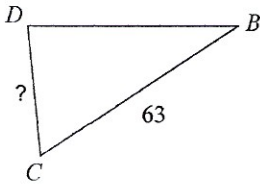
$\frac{X}{14} = \frac{18}{12}$

$12X = 14(18)$
 $12X = 252$
 $X = \frac{252}{12}$

$X = \boxed{21}$

Find the missing length. The triangles in this pair are similar.

7) $\triangle DCB \sim \triangle DTU$



$$\frac{DC}{DT} = \frac{CB}{TU}$$

$$\frac{x}{5} = \frac{63}{9}$$

$$9x = 5(63)$$

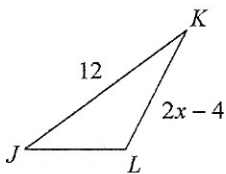
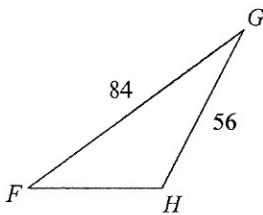
$$9x = 315$$

$$x = \frac{315}{9}$$

$$x = \boxed{35}$$

Solve for x . The triangles in this pair are similar.

8) $\triangle FGH \sim \triangle JKL$



$$\frac{2x-4}{56} = \frac{12}{84}$$

$$84(2x-4) = 12(56)$$

$$168x - 336 = 672$$

$$168x = 672 + 336$$

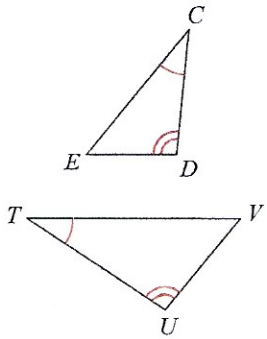
$$168x = 1008$$

$$x = \frac{1008}{168}$$

$$x = \boxed{6}$$

State if the triangles in this pair are similar. If so, complete the similarity statement.

9)

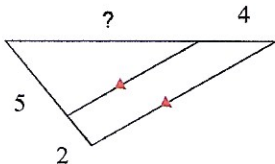


$$\triangle TUV \sim \triangle CDE$$

- A) similar; $\triangle ECD$
- B) not similar
- C) similar; $\triangle DCE$
- D) similar; $\triangle CDE$

Find the missing length indicated.

10)



- A) 10
- B) 7
- C) 12
- D) 15

$$\frac{5}{2} = \frac{x}{4}$$

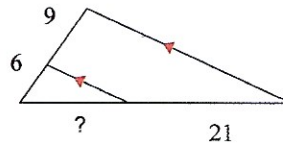
$$5(4) = 2x$$

$$20 = 2x$$

$$\frac{20}{2} = x$$

$$10 = x$$

11)



$$\frac{x}{21} = \frac{6}{9}$$

$$9x = 6(21)$$

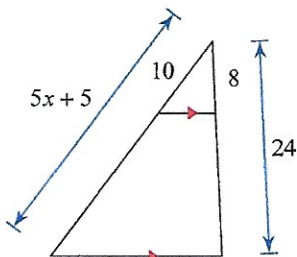
$$9x = 126$$

$$x = \frac{126}{9}$$

$$x = 14$$

Solve for x.

12)



- A) 6
- B) 5
- C) 3
- D) 8

$$\frac{5x+5}{10} = \frac{8}{24}$$

$$8(5x+5) = 10(24)$$

$$40x + 40 = 240$$

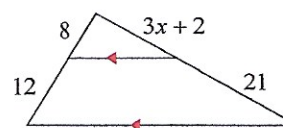
$$40x = 240 - 40$$

$$40x = 200$$

$$x = \frac{200}{40}$$

$$x = 5$$

13)



$$\frac{3x+2}{21} = \frac{8}{12}$$

$$12(3x+2) = 8(21)$$

$$36x + 24 = 168$$

$$36x = 168 - 24$$

$$36x = 144$$

$$x = \frac{144}{36}$$

$$x = 4$$