

Review for Quiz

Geometry Honors Worksheet - Sections 7-1, 2, 3

Name Mary

Fill in the blanks.

1. If $\frac{yp}{x} = \frac{pt+q}{p}$, then $\frac{x}{y} = \frac{q+p}{p}$

2. If $\frac{a+b}{a} = \frac{c+d}{c}$, then $\frac{ad}{bc} = ac - ad$

$ac + bc = ac - ad$

$xp = y(p+q)$

$xp = yp + yq$

$\frac{(x-y)p}{yp} = \frac{yq}{yp}$

$\frac{x-y}{y} = \frac{q}{p}$

$\frac{bc}{-bc} = \frac{acd}{-1} = \frac{ad}{bc}$

3. $m\angle G = 90$

$m\angle I = 43$

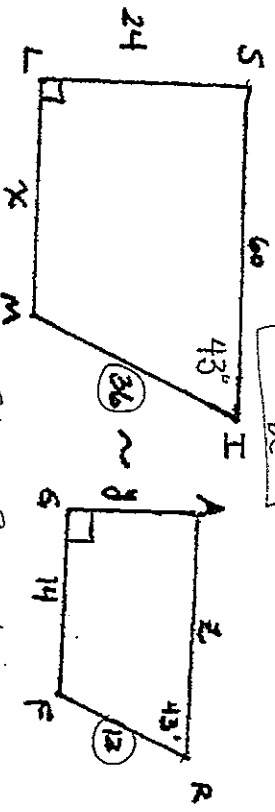
$x = 42$

$y = 8$

$z = 20$

Scale factor of SIML to ARFG

Find the value of x:



$\frac{36}{12} = \frac{3}{1} = \frac{x}{14}$ $\frac{3}{3} = \frac{60}{z}$

4. $\frac{x}{x+5} = \frac{x-4}{x}$

5. $\frac{x+1}{x-2} = \frac{x+5}{x-6}$

6. $\frac{x(x+5)}{4x+4} = \frac{9}{5}$

$x^2 = x^2 + x - 20$

$0 = x - 20$

$20 = x$

$(x-6)(x+1) = (x-2)(x+5)$

$x^2 - 5x - 6 = x^2 + 3x - 10$

$4 = 8x$

$\frac{1}{2} = x$

$(5x+9)(x-4) = 0$

$x = -\frac{9}{5}$ $x = 4$

Find the values of x and y:

7. $\frac{y}{x-9} = \frac{4}{7}$ and $\frac{x+y}{x-y} = \frac{5}{3}$

8. $\frac{y-3}{4} = \frac{x+2}{2}$ and $\frac{y+x-1}{6} = \frac{y-x+1}{5}$

$7y = 4(x-9)$ $3(x+y) = 5(x-y)$

$7y = 4x - 36$

$3x + 3y = 5x - 5y$

$7y = 4(4y) - 36$

$8y = 4x$

$-9y = -36$

$4y = x$

$\frac{4(4)}{y} = x$

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

$2(y-3) = 4(x+2)$ $5(y+x-1) = 6(y-x+1)$

$2y - 6 = 4x + 8$ $5y + 5x - 5 = 6y - 6x + 6$

$2y - 6 = 4x + 8$ $11x - 11 = y$

$y = 4x + 14$ $11(4x - 11) = y$

$y = 4x + 7$ $44x - 121 = y$

$11x - 11 = 2x + 7$ $9x = 18$

$9x = 18$

Show that the given proportions are equivalent:

$$9. \frac{a-b}{a+b} = \frac{c-d}{c+d} \text{ and } \frac{a}{b} = \frac{c}{d} \quad \rightarrow \boxed{ad = bc}$$

$$\begin{aligned} (a-b)(c+d) &= (a+b)(c-d) \\ ac+ad-bc-bd &= ac-ad+bc-bd \\ 2ad &= 2bc \\ \boxed{ad = bc} \end{aligned}$$

Tell whether the two polygons are always, sometimes, or never similar.

- 10. Two right isosceles triangles always
- 11. Two squares always
- 12. Two regular octagons always
- 13. A hexagon and a 7-sided figure never
- 14. Two parallelograms sometimes
- 15. Two equilateral quadrilaterals sometimes

16. A triangle has angles in the ratio of 10:12:14. What are the measures of each angle?

$$\begin{aligned} 5x + 6x + 7x &= 180 \\ 18x &= 180 \\ x &= 10 \end{aligned}$$

$$\begin{aligned} \text{S:U:V} \\ 5x &= 50 \\ 6x &= 60 \\ 7x &= 70 \end{aligned}$$

17. The perimeter of a triangle is 133 cm. Find the lengths of the sides if they are in the ratio of 3:6:10.

$$\begin{aligned} 3x + 6x + 10x &= 133 \\ 19x &= 133 \\ x &= 7 \end{aligned}$$

$$\begin{aligned} 3x &= 21 \\ 6x &= 42 \\ 10x &= 70 \end{aligned}$$

Show if this statement is true or false: The ratio $\frac{a}{b} = \frac{c}{d}$ is equivalent to: $\rightarrow ad = bc$

$$18. \frac{a}{b+a} = \frac{c}{d+c}$$

$$ad+ac = bc+ac$$

$$\boxed{ad = bc}$$

true

$$19. \frac{a+d}{a} = \frac{c+b}{c/b}$$

$$dc+db = ab+db$$

$$\boxed{dc = ab}$$

False

$$20. \frac{a^2}{b} = \frac{c^2}{d}$$

$$\boxed{d(a^2) = b(c^2)}$$

False

$$21. \frac{a(a+b)}{b} = \frac{c(c+d)}{d}$$

$$\boxed{da(a+b) = bc(c+d)}$$

False