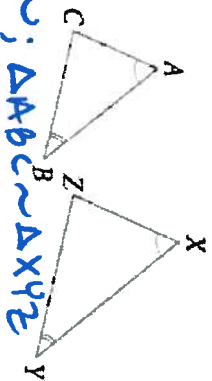


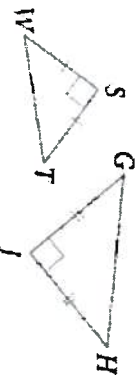
Determine whether the triangles are similar. If so, write the similarity statement. Also, write the postulate or theorem that proves they are similar.

1.



$AA \sim$; $\triangle ABC \sim \triangle XYZ$

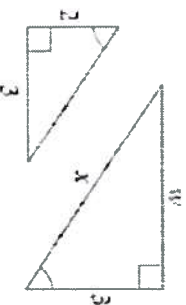
2.



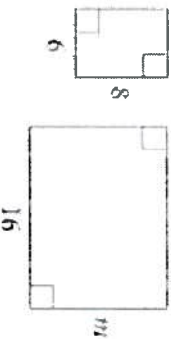
$SAS \sim$; $\triangle WST \sim \triangle GHJ$

3. Algebra The polygons are similar. Find the value of each variable.

3.



4.



$m = 12$

$$\frac{2}{3} = \frac{w}{3}$$

$$w = 4.5$$

$$x = \frac{3\sqrt{13}}{2}$$

Challenge \star Pythagorean Thm. for x
 $\dots^2 + 2^2 = x^2$ (4.5) $^2 + 3^2 = x^2$

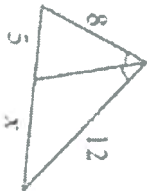
x^2 Algebra Find the value of each variable.

5.



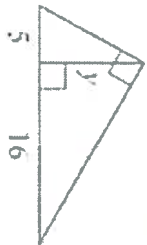
$$x = 15$$

6.



$$x = 7.5$$

7.



$$y = 4\sqrt{5}$$

S	SA	MA	CA
5	5		10
m			
l	10		5+x

$$\frac{8}{12} = \frac{5}{x}$$

$$x = 7.5$$

S	SA	MA	CA
5	5	y	16
m	y		
l			

12. Indirect Measurement A meter stick is held perpendicular to the ground. It casts a shadow 1.5 m long. At the same time, a telephone pole casts a shadow that is 9 m long. How tall is the telephone pole?

6 meters

13. Photography A photographic negative is 3 cm by 2 cm. If a similar print from the negative is 9 cm long on its shorter side, what is the length

13.5 cm

Find the geometric mean of each pair of numbers. If the answer is not a whole number, write it in simplest radical form.

14. 10, 15

$5\sqrt{6}$

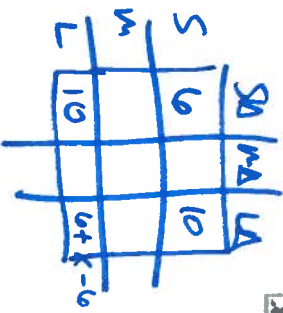
15. 4, 9

6

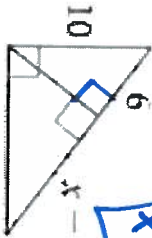
16. 6, 12

$6\sqrt{2}$

x^2 Algebra Find the value of x .

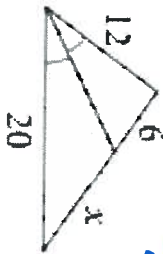


18.



$$x = 16\frac{2}{3}$$

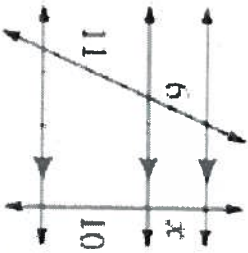
19.



$$\frac{12}{20} = \frac{6}{x}$$

$$x = 10$$

20.



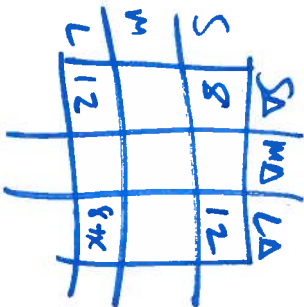
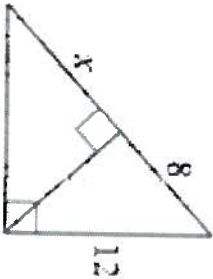
$$\frac{6}{11} = \frac{x}{10}$$

$$x = 5\frac{5}{11}$$

$$x = \frac{60}{11}$$

$$x = 5.45$$

21.



$$\frac{8}{12} = \frac{8+x}{8+x}$$

$$x = 10$$