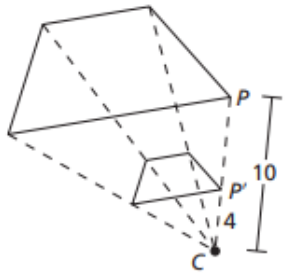
Math 2: Chapters 8 & 9 Review Worksheet Name:

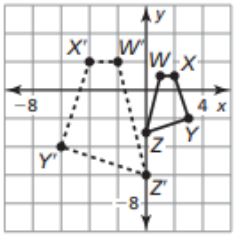
1. Find the scale factor then tell whether the dilation is a reduction or enlargement.



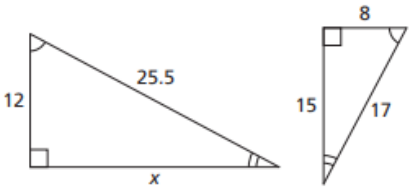
2. Find the coordinates of the image after the dilation given:

$P(1, 2), Q(2, 2), R(4, -2), S(-1, -3); k = 2$

3. Describe a similarity transformation that maps the black preimage onto the dashed image:

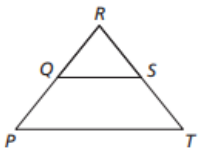


4. The triangles are similar. Find x

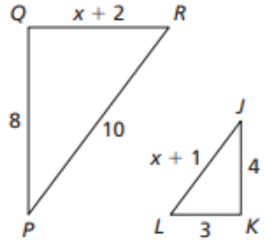


5. If figure A and B are similar. Figure A has an area of 4928 square feet and one of the side lengths is 88 feet. Figure B has an area of 77 square feet. Find the corresponding side length of figure B.

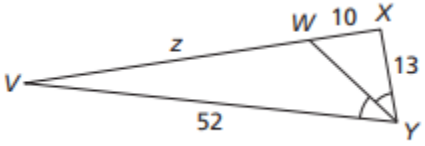
6. **Given** $\frac{PR}{QR} = \frac{TR}{SR}$ **Prove:** $\Delta RQS \sim \Delta RPT$



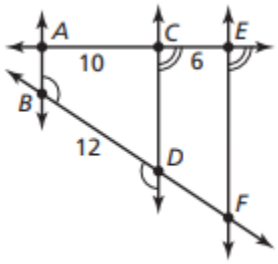
7. Find the value of x that makes $\Delta PQR \sim \Delta JKL$



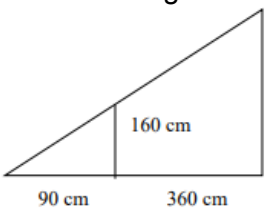
8. Find the value of z:



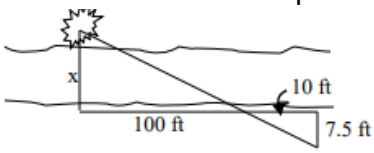
9. Find $\overline{DF}$



10. A girl 160 cm tall, stands 360 cm from a lamp post at night. Her shadow from the light is 90 cm long. How high is the lamp post?

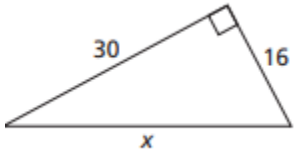


11. A bush is sighted on the other side of a canyon. Find the width of the canyon if the distances labeled "x" and "7.5 ft" are parallel.

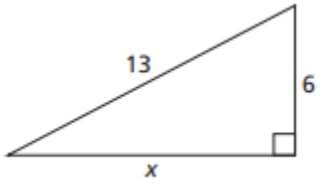


12. The foot of a ladder is 1.2 m from a fence that is 1.8 m high. The ladder touches the fence and rests against a building that is 1.8 m behind the fence. Draw a diagram, and determine the height on the building reached by the top of the ladder.

13. Find the value of x then tell whether the side lengths form a Pythagorean Triple.



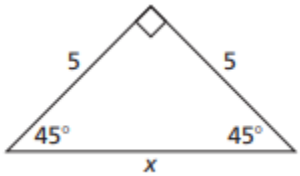
14. Find the value of x then tell whether the side lengths form a Pythagorean Triple.



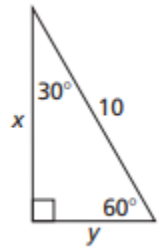
15. Verify that the lengths form a triangle then show whether it is *acute, right,* or *obtuse.*

5, 7, and 8

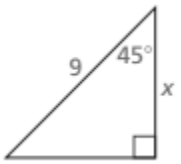
16. Find the value of x. Write your answer in simplest form.



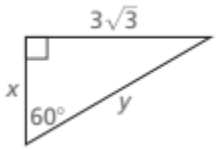
17. Find the value of the variables. Write your answers in simplest form.



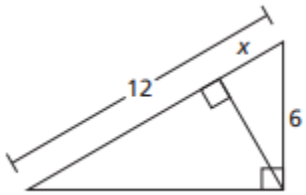
18. Find x:



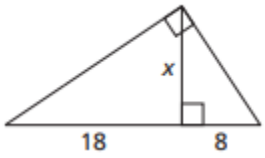
19. Find x and y:



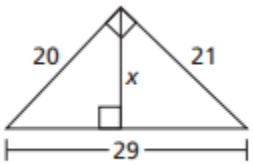
20. Find x:



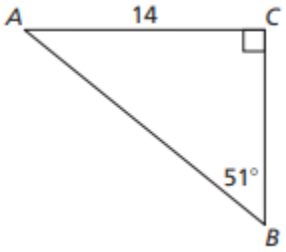
21. Find x:



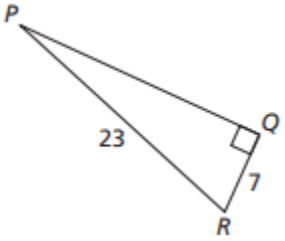
22. Find x:



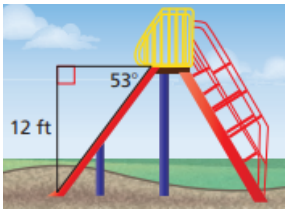
23. Solve the right triangle.



24. Solve the right triangle.



25. The top of the slide is 12 feet from the ground and has an angle of depression of 53°. What is the length of the slide?



26. A surveyor is standing 30 feet from the base of a tall building. The surveyor measures the angle of elevation from the ground to the top of the building to be 65 . ° Find the height h of the building to the nearest foot.