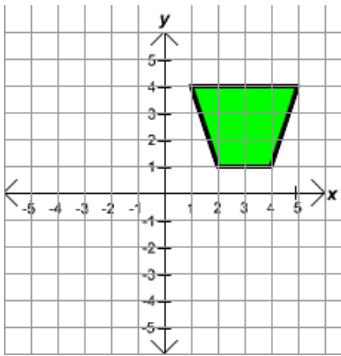


Benchmark 3 Review

1. What would the coordinate be for the point (3, -2) after it is reflected over $y=x$ and then translated $(x, y) \rightarrow (x-3, y+1)$?

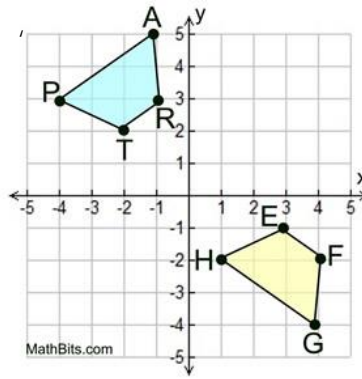
2. If the image coordinate for a rotation of 90° CCW about the origin is $G'(-4, 7)$ what is the preimage coordinate?

3. What quadrant will the following figure end up in after a rotation of 270° CCW about the origin, then a reflection over $x=-1$, then translate up 6?

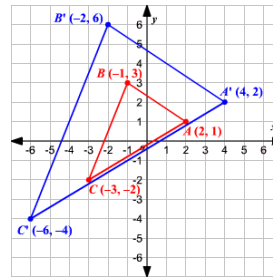


4. How could you map QRST to JKLM if $Q(-1, 2)$, $R(-1, 5)$, $S(4, 5)$, $T(4, 2)$ and $J(3, -1)$, $K(0, -1)$, $L(0, 4)$, and $T(3, 4)$.

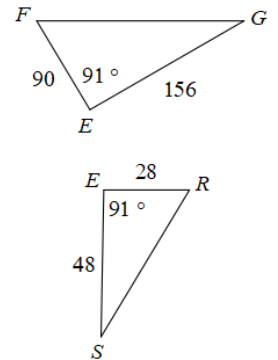
5. Determine how EFGH could be mapped onto TRAP.



6. Determine if the following triangles are congruent.



7. Determine if the two triangles are similar. Provide evidence as to why or why not.

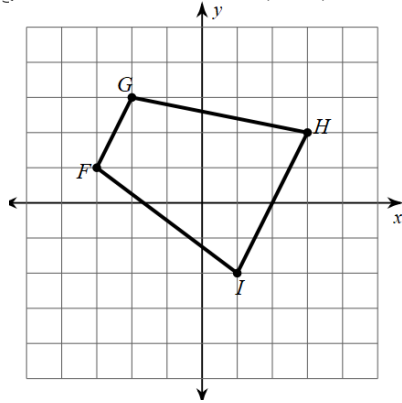


8. A tree is standing next to a 40 ft. high building. The tree has an 18 ft. shadow, while the building has a 16 ft. shadow. How tall is the tree to the nearest foot?

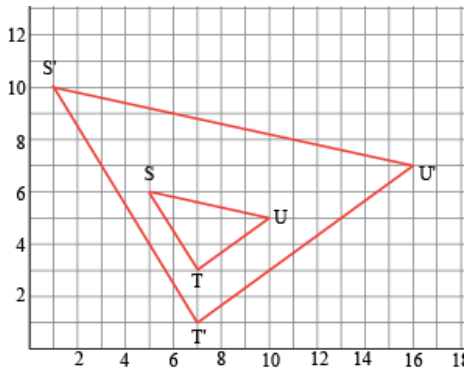
9. Two polygons are similar then their corresponding angles are _____, and their corresponding sides are _____.

- A. not equal, proportional
- B. Equal, congruent
- C. Congruent, proportional.
- D. none of above

10. Dilate the following figure with a center at $(-1, 2)$ and scale factor of $1/2$.



11. Identify the scale factor and center of dilation in the following diagram.

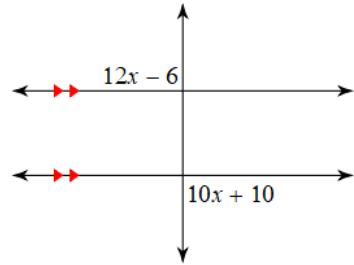


12. Which transformations are rigid motions, and why do they preserve congruence in shapes?

13. If $\triangle HIJK$ is congruent to $\triangle PQRS$, name the pairs of congruent sides and congruent angles.

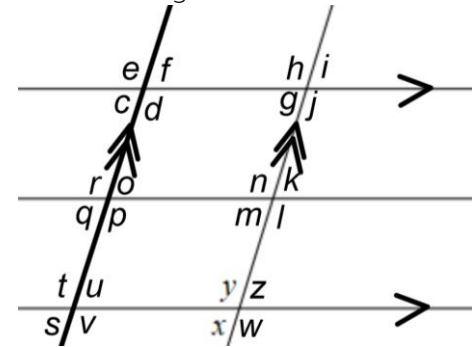
14. Name all proportional sides and congruent angles if $\triangle NOT \sim \triangle FLY$.

15. What is the value of x in the following diagram?



16. What angles must be supplementary to angle h ?

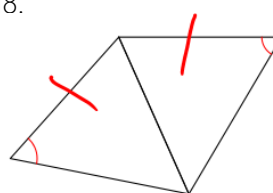
Use this image for 16 and 17



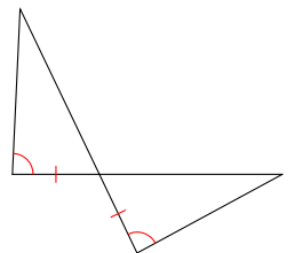
17. Prove angle h is supplementary to angle f .

Are the following triangles congruent? State how you know.

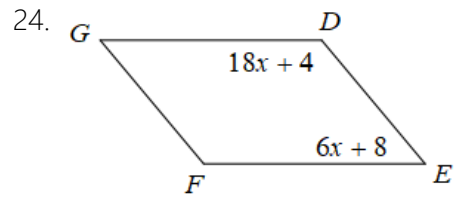
18.



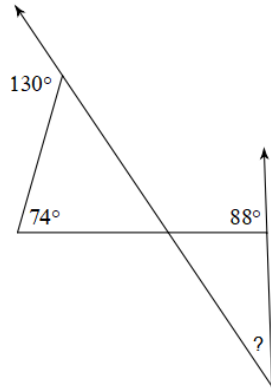
19.



20. If $\triangle FYE$ is isosceles and one base angle is 25° what is the measure of the non-base angle?

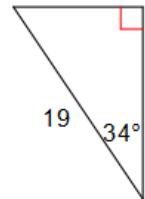


21. Find the value of '?' in the following diagram.

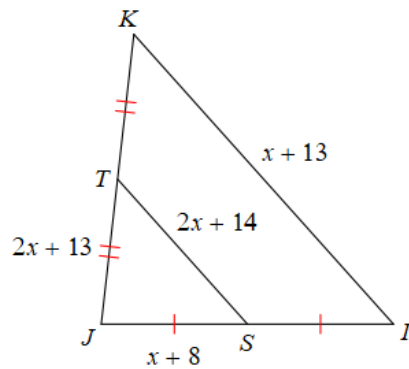


25. In #23's parallelogram, what is the relationship between $\angle UWX$ and $\angle WUV$?

26. What is the length of the shortest side of the following right triangle?



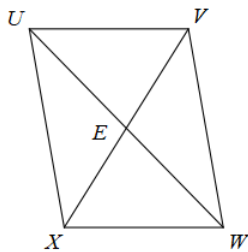
22. Solve for x in the following diagram.



27. A right triangle has legs of 10 in. and 17.32 in. What is the measure of the larger angle?

23 and 24 have images of parallelograms. Find the value of x for each.

23. $VE = 6x - 3$
 $VX = 9x + 3$



28. In $\triangle DAB$, the $\sin(D) = 8/10$ what is the $\sin(B)$? $\cos(B)$?

29. What is the arc length of the bolder arc?

