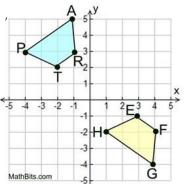
Benchmark 3 Review

coordinate?

1. What would the coordinate be for the point (3, -2) after if is reflected over y=x and the translated (x, y)->(x-3,y+1)?

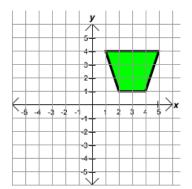
2. If the image coordinate for a rotation of 90 CCW about the origin is G'(-4,7) what is the preimage

5. Determine how EFGH could be mapped onto TRAP.

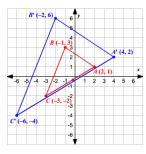


6. Determine if the following triangles are congruent.

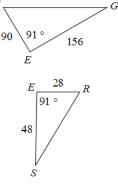
3. What quadrant the following figure end up in after a rotation of 270° CCW about the origin, then a reflection over x=-1, then translate up 6?



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).



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

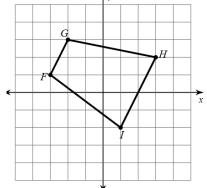


8. A tree is standing next tot a 40 ft. high building.The tree has an 18 ft. shadow, while the building has a 16 ft. shadow. How tall is the tree to the nearest foot?

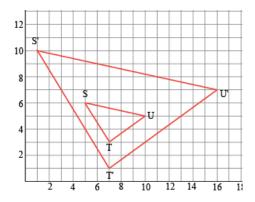
9. Two polygons are similar then their corresponding angles are _____, and their corresponding sides are _____.

- 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

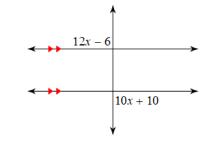


12. Which transformaitons are rigid motions, and why do they preserve congruence in shapes?

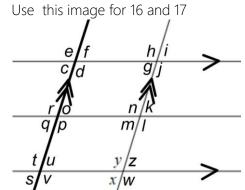
13. If HIJK is congruent to PQRS, name the pairs of congruent sides and congruent angles.

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

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

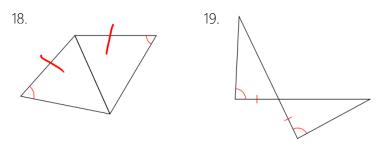


16. What angles must to be supplementary to angle h?

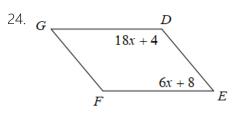


17. Prove angle h is supplementary to angle f.

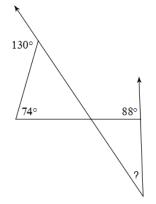
Are the following triangles congruent? State how you know.



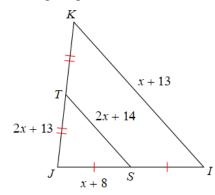
20. If ΔFYE is isosceles and one base angle is 25° what is the measure of the non-base angle?



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



22. Solve for x in the following diagram.



W

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

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

X

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

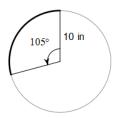
26. What is the length of the shortest side of the following right triangle?



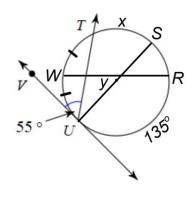
27. A right triangle has legs of 10 in. and 17.32 in. What is the measure of the larger angle?

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

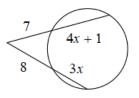
29. What is the arc length of the bolder arc?



30. Find the value of x and y.



31. What is the value of x?



STUDYUNIT 1 VOCABULARY WORDS

Angle – A figure formed by two rays with a common endpoint.

Circle – The set of points in a plane that are a fixed distance from a given point called the center of the circle.

Perpendicular lines – Lines that intersect at 90 degree angles.

Parallel Line – Lines in the same plane that do not intersect.

Line Segment – A straight line which links two points without extending beyond them.

Point –A specific location in space, often represented by a dot.

Line – A straight pathway that is endless in both directions, has no thickness, and is comprised of points.

Ray – A part of a line that starts at endpoint and extends forever in one direction.

Image - The figure after a transformation has occured.

Transformation - a change in the position, size, or shape of a figure. A transformation maps the preimage to the image.

Rigid Motion - A transformation of the plane or space, which preserves distance and angles. (AKA Isometry)

Translation - a transformation in which all the points of a figure move the same distance in the same direction.

Rotation - A transformation about a point P, such that each point and its image are the same distance from P.

Reflection - A transformation across a line, called the line of reflection. Each point and its image are the same distance from the line of reflection.

Dilation - A transformation that changes the size of a figure but not its shape.