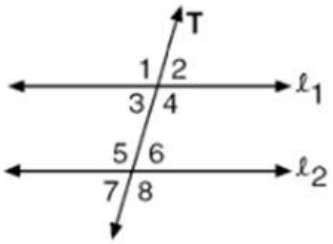
Name_____Date_____

Geometry

End of Module Formative

Show all your work. Multiple Choice 2 points each.

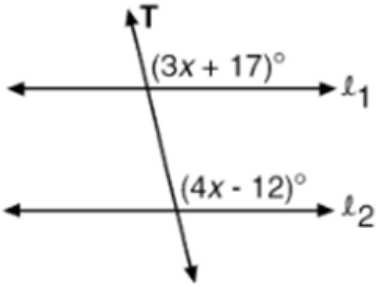
1.



∠3 and ∠6 can be classified as

A) alternate interior angles
B) corresponding angles
C) interior angles on the same side as the transversal
D) none of these

2. What is the value of x that makes $\ell_1 \parallel \ell_2$?

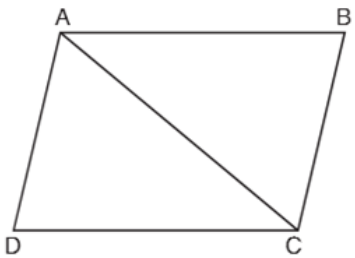


A) 29 B) 26.4 C) 5 D) 25

3. What is the image of the point $(-5,2)$ under the translation $T_{3,-4}$?

(1) $(-9,5)$
(2) $(-8,6)$
(3) $(-2,-2)$
(4) $(-15,-8)$

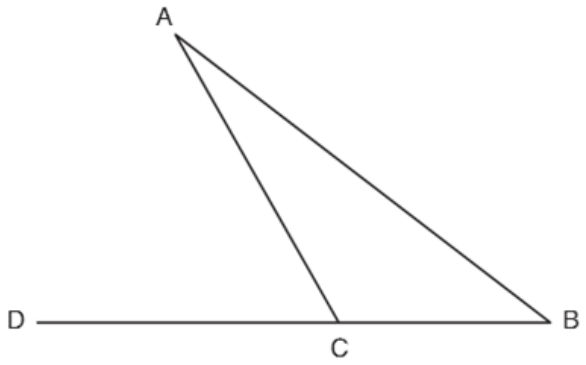
4. In the diagram below of quadrilateral $ABCD$, $\overline{AB} \parallel \overline{CD}$, $\angle ABC \cong \angle CDA$, and diagonal $\overline{AC}$ is drawn.



Which method can be used to prove that $\triangle ABC$ is congruent to $\triangle CDA$?

(1) AAS
(2) SSA
(3) SAS
(4) SSS

5. In the diagram below of $\triangle ABC$, side $\overline{BC}$ is extended to point D, $m\angle A = x$, $m\angle B = 2x + 15$, and $m\angle ACD = 5x + 5$.



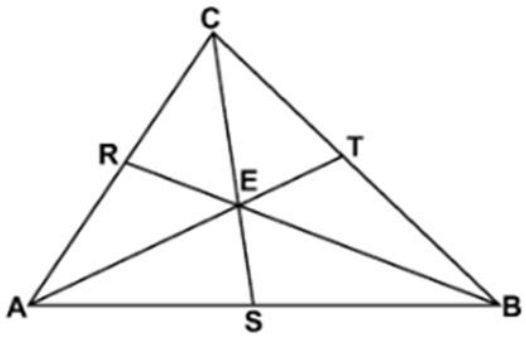
What is $m\angle B$?

(1) 5
(2) 20
(3) 25
(4) 55

6. When writing a geometric proof, which angle relationship could be used to justify that two angles are congruent?

(1) supplementary angles
(2) linear pair of angles
(3) adjacent angles
(4) vertical angles

7. In the accompanying diagram of $\triangle ABC$, $\overline{AT}$, $\overline{BR}$, and $\overline{CS}$ are medians of the triangle.



If BR = 18, find ER.

2 points

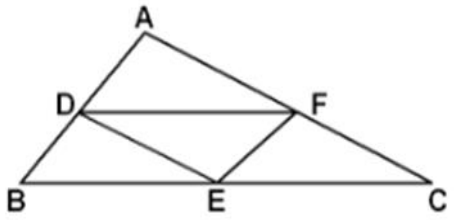
8. The transformation $R_{90°}$ maps point (5,6) onto the point whose coordinates are

A) (-6,5) B) (5,-6) C) (6,-5) D) (6,5)

9. The coordinates of point A are (3,-1). What are the coordinates of A under the transformation $(T_{2,5} \circ r_{x\text{-axis}})(A)$?

A) (-5,-4) B) (5,4) C) (-1,4) D) (5,6)

10. In the accompanying diagram of $\triangle ABC$, $AB = 5$, $AC = 10$, and $BC = 13$. Triangle DEF is formed by connecting the midpoints the sides of $\triangle ABC$.



Find the perimeter of $\triangle DEF$.

2 points

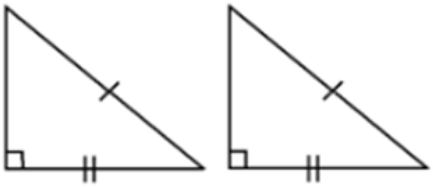
11. Questions 3 and 4 refer to the following:

What is the congruence correspondence, if any, that will prove the given triangles congruent?

3)

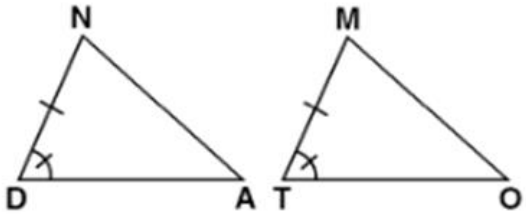
A) SAS B) AAS C) SSA D) none

4)



A) HL B) SSA C) SAS D) none

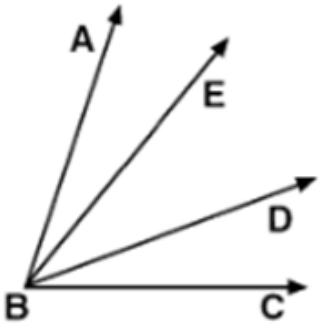
12. The pair of triangles below have two corresponding parts marked as congruent.



What additional information is needed for an ASA congruence correspondence?

A) $\angle N \cong \angle M$ B) $\angle A \cong \angle M$ C) $\angle A \cong \angle O$ D) $\overline{DA} \cong \overline{TO}$

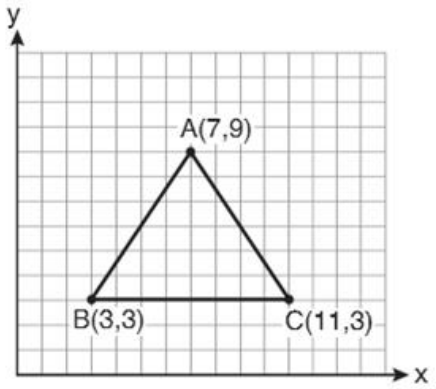
13.



If $m\angle EBC = 60°$ and $m\angle EBD = 40°$, find $m\angle DBC$.

2 points

14. The vertices of the triangle in the diagram below are $A(7,9)$, $B(3,3)$, and $C(11,3)$.



What are the coordinates of the centroid of $\triangle ABC$?

(1) (5,6)
(2) (7,3)
(3) (7,5)
(4) (9,6)

15.

Given: $AC \cong CB$
D is midpoint of $\overline{AB}$

Prove: $\angle ACD \cong \angle DCB$

4 points