

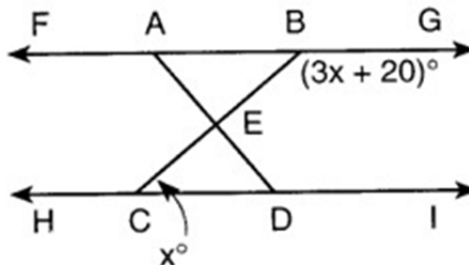


Parallels & Quadrilaterals

Name _____

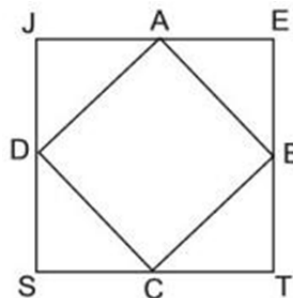
1. In parallelogram $CARS$, $m\angle C = 5x - 20$ and $m\angle A = 3x + 40$. Find the value of x .
 [1] 15 [2] 20 [3] 30 [4] 130

2. In the accompanying diagram, $\overline{FABG} \parallel \overline{HCDI}$, \overline{BC} and \overline{AD} intersect at E , $m\angle GBE = 3x + 20$, and $m\angle ECD = x$.
 What is the value of x .
 [1] 10 [2] 17.5 [3] 40 [4] 50

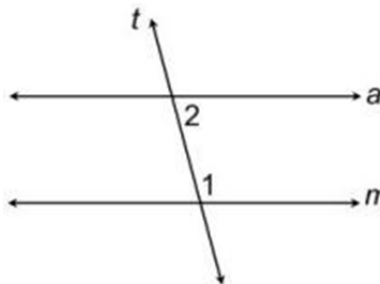


3. If two consecutive sides of a rhombus are represented by $3x - 6$ and $x + 14$, then the perimeter of the rhombus is
 [1] 10 [2] 24 [3] 70 [4] 96

4. Points A , B , C , and D are midpoints of the sides of square $JETS$. If the area of $JETS$ is 36, the area of $ABCD$ is
 [1] $9\sqrt{2}$ [3] 9
 [2] $18\sqrt{2}$ [4] 18



5. In the diagram at the right, parallel lines a and m are cut by transversal t , $m\angle 1 = 4x + 16$ and $m\angle 2 = 2x - 22$. Find $m\angle 1$.
 [1] 31° [3] 140°
 [2] 40° [4] 148°



6. A quadrilateral must be a parallelogram if one pair of opposite sides is
 [1] congruent, only. [3] congruent and parallel.
 [2] parallel, only. [4] parallel and the other pair of opposite sides is congruent.
7. The perimeter of a rhombus is 60. If the length of its longer diagonal measures 24, the length of the shorter diagonal is
 [1] 20 [2] 18 [3] 15 [4] 9

1. _____

2. _____

3. _____

4. _____

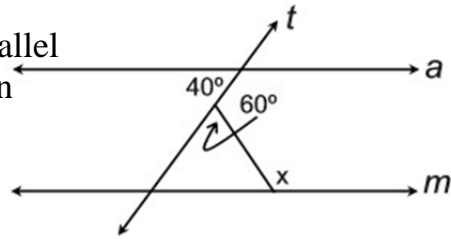
5. _____

6. _____

7. _____

8. In the diagram at the right, lines a and m are parallel with transversal t . Find the number of degrees in the angle labeled x .

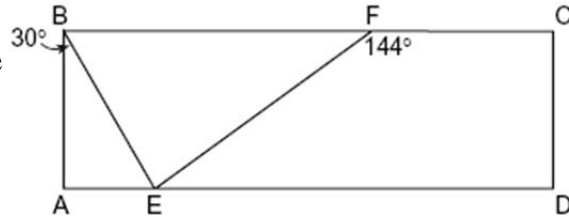
[1] 80° [2] 100° [3] 120° [4] 140°



8. _____

9. In the accompanying diagram of rectangle $ABCD$, $m\angle ABE = 30$ and $m\angle CFE = 144$. Find $m\angle BEF$.

[1] 36° [2] 60° [3] 84° [4] 90°



9. _____

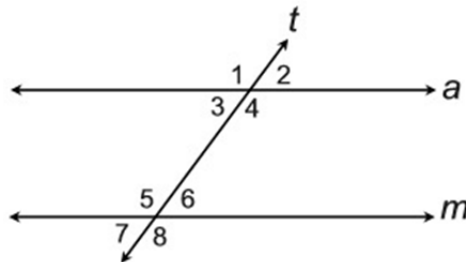
10. Find the perimeter of a rhombus whose diagonals measure 12 and 16.

[1] 10 [2] 20 [3] 40 [4] 80

10. _____

11. In the diagram at the right, lines a and m are parallel and are cut by transversal t . Which two angles are not always congruent?

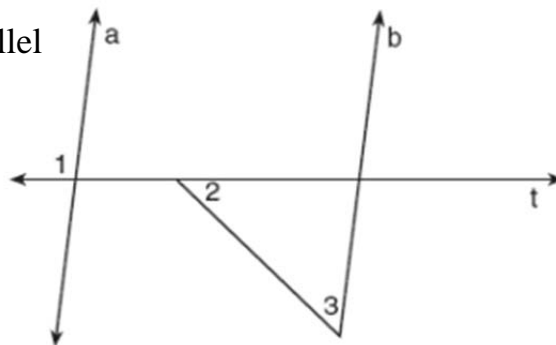
[1] $\angle 4$ and $\angle 6$ [3] $\angle 4$ and $\angle 5$
 [2] $\angle 1$ and $\angle 8$ [4] $\angle 2$ and $\angle 3$



11. _____

12. In the diagram at the right, line a is parallel to line b , and line t is a transversal. If $m\angle 1 = 97$ and $m\angle 2 = 44$, find $m\angle 3$.

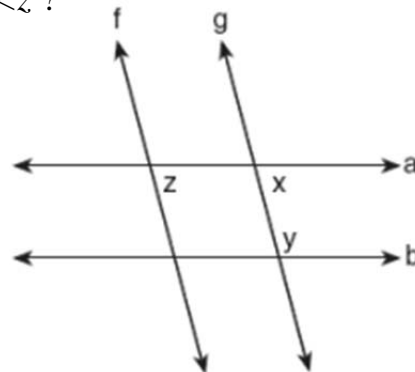
[1] 44
 [2] 53
 [3] 83
 [4] 97



12. _____

13. In the diagram below, lines f and g are parallel, and lines a and b are parallel. The $m\angle x = 75$. What is the value of $m\angle y + m\angle z$?

[1] 75
 [2] 105
 [3] 150
 [4] 180



13. _____

