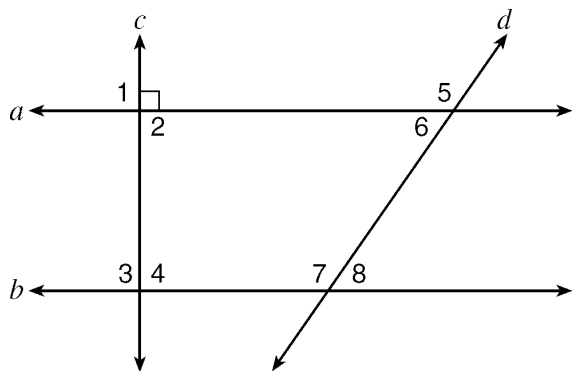


Parallel Lines

Name: _____

Date: _____

1. In the accompanying diagram, lines a and b are parallel, and lines c and d are transversals. Which angle is congruent to angle 8?

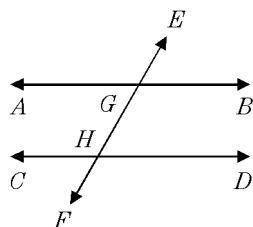


- A. 6 B. 5 C. 3 D. 4

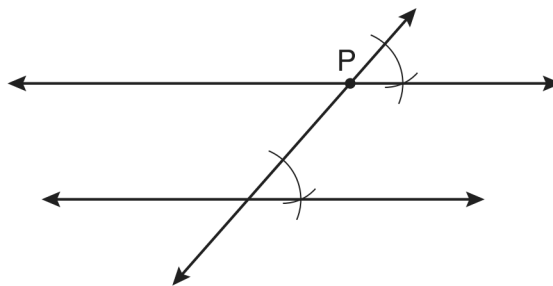
2. Lines j and k intersect at point P . Line m is drawn so that it is perpendicular to lines j and k at point P . Which statement is correct?

- A. Lines j and k are in perpendicular planes.
 B. Line m is in the same plane as lines j and k .
 C. Line m is parallel to the plane containing lines j and k .
 D. Line m is perpendicular to the plane containing lines j and k .

3. In the accompanying diagram, \overleftrightarrow{AB} is parallel to \overleftrightarrow{CD} and transversal \overleftrightarrow{EF} intersects \overleftrightarrow{AB} and \overleftrightarrow{CD} at G and H , respectively. If $m\angle DHG : m\angle BGH = 1 : 2$, find $m\angle DHG$.

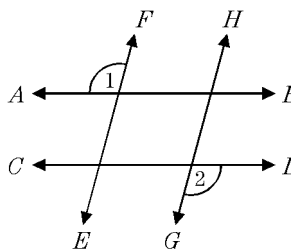


4. Which geometric principle is used to justify the construction below?

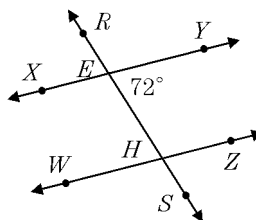


- A. A line perpendicular to one of two parallel lines is perpendicular to the other.
 B. Two lines are perpendicular if they intersect to form congruent adjacent angles.
 C. When two lines are intersected by a transversal and alternate interior angles are congruent, the lines are parallel.
 D. When two lines are intersected by a transversal and the corresponding angles are congruent, the lines are parallel.

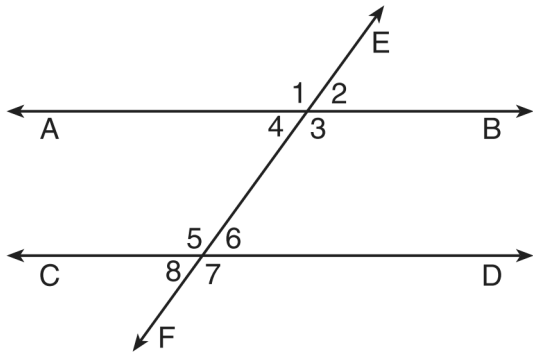
5. In the accompanying diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $\overleftrightarrow{EF} \parallel \overleftrightarrow{GH}$, and $m\angle 1 = 105$. What is $m\angle 2$?



6. In the accompanying diagram, transversal \overleftrightarrow{RS} intersects parallel lines \overleftrightarrow{XY} and \overleftrightarrow{WZ} at E and H , respectively. If $m\angle HEY = 72$, what is $m\angle ZHS$?

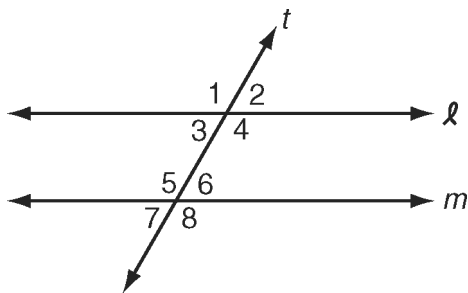


7. Transversal \overleftrightarrow{EF} intersects \overleftrightarrow{AB} and \overleftrightarrow{CD} , as shown in the diagram below.



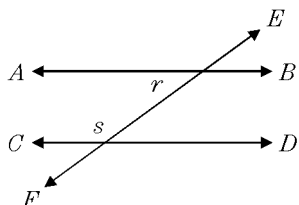
Which statement could always be used to prove $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$?

- A. $\angle 2 \cong \angle 4$
 B. $\angle 7 \cong \angle 8$
 C. $\angle 3$ and $\angle 6$ are supplementary
 D. $\angle 1$ and $\angle 5$ are supplementary
8. In the accompanying diagram, line ℓ is parallel to line m , and line t is a transversal.

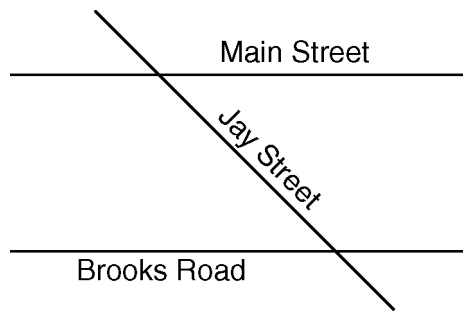


Which must be a true statement?

- A. $m\angle 1 + m\angle 4 = 180$ B. $m\angle 1 + m\angle 8 = 180$
 C. $m\angle 3 + m\angle 6 = 180$ D. $m\angle 2 + m\angle 5 = 180$
9. In the accompanying diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, \overleftrightarrow{EF} intersects \overleftrightarrow{AB} and \overleftrightarrow{CD} , and the ratio of $m\angle r$ to $m\angle s$ is 1:4. Find $m\angle r$.

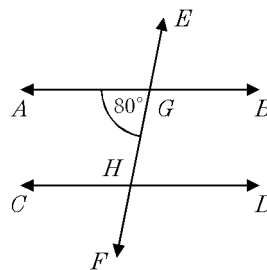


10. The accompanying diagram shows two parallel streets, Main Street and Brooks Road, intersected by Jay Street. The obtuse angle that Jay Street forms with Brooks Road is three times the measure of the acute angle that Jay Street forms with Main Street.

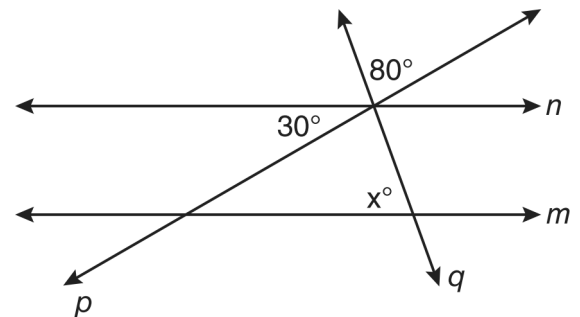


What is the measure of the acute angle formed by Jay Street and Main Street?

- A. 45° B. 60° C. 90° D. 135°
11. In the accompanying diagram, \overleftrightarrow{AB} and \overleftrightarrow{CD} are parallel and \overleftrightarrow{EF} intersects \overleftrightarrow{AB} at G and \overleftrightarrow{CD} at H . If $m\angle AGH = 80$, what is $m\angle CHG$?



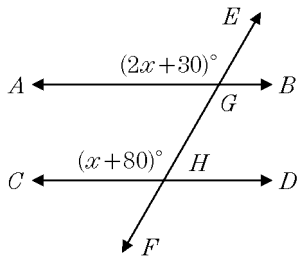
12. In the diagram below, lines n and m are cut by transversals p and q .



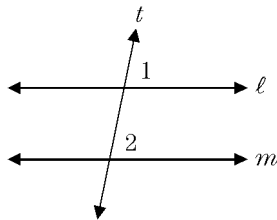
Which value of x would make lines n and m parallel?

- A. 110 B. 80 C. 70 D. 50

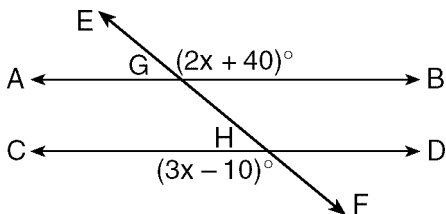
13. In the accompanying diagram, \overleftrightarrow{AB} is parallel to \overleftrightarrow{CD} , and \overleftrightarrow{AB} and \overleftrightarrow{CD} are cut by transversal \overleftrightarrow{EF} at points G and H , respectively. If $m\angle EGA = (2x + 30)$ and $m\angle EHC = (x + 80)$, find x .



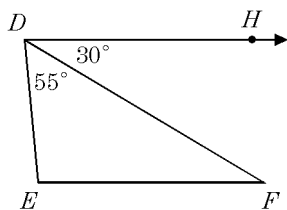
14. In the accompanying diagram, transversal t intersects parallel lines ℓ and m . If $m\angle 1 = 2x + 40$ and $m\angle 2 = 3x + 20$, find the value of x .



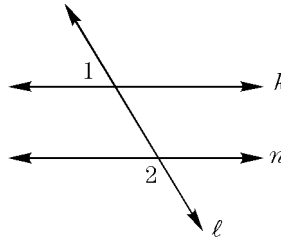
15. In the accompanying diagram, transversal \overleftrightarrow{EF} intersects parallel lines \overleftrightarrow{AB} and \overleftrightarrow{CD} at G and H , respectively. If $m\angle EGB = 2x + 40$ and $m\angle FHC = 3x - 10$, what is the value of x ?



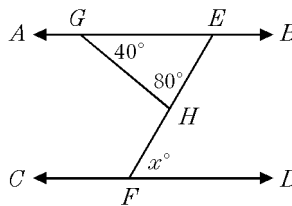
16. In the accompanying diagram, $\overleftrightarrow{DH} \parallel \overleftrightarrow{EF}$. If $m\angle HDF = 30$ and $m\angle EDF = 55$, find $m\angle E$.



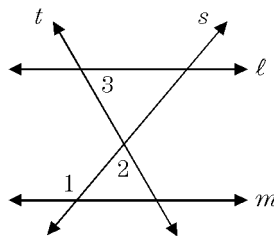
17. In the accompanying diagram, line k is parallel to line n , and line ℓ is a transversal that intersects lines k and n . If $m\angle 1 = x + 25$ and $m\angle 2 = 5x - 25$, find x .



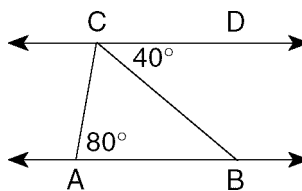
18. In the accompanying diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, \overleftrightarrow{EF} intersects \overleftrightarrow{AB} at E and \overleftrightarrow{CD} at F , and \overleftrightarrow{GH} intersects \overleftrightarrow{AB} at G and \overleftrightarrow{EF} at H . If $m\angle EGH = 40$, $m\angle GHE = 80$, and $m\angle EFD = x$, what is the value of x ?



19. In the accompanying diagram, $\ell \parallel m$, t and s are intersecting transversals, $m\angle 1 = 130$, and $m\angle 2 = 60$. Find $m\angle 3$.



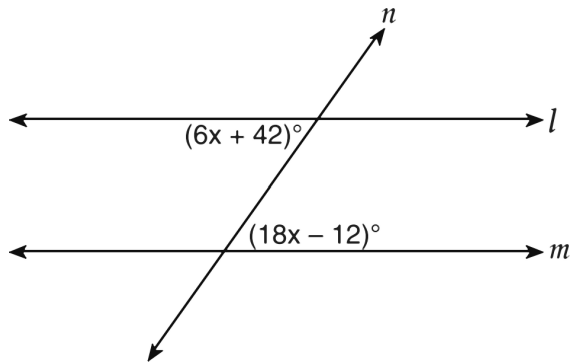
20. In the accompanying diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle CAB = 80$, and $m\angle DCB = 40$.



What is $m\angle ACB$?

- A. 40 B. 60 C. 80 D. 120

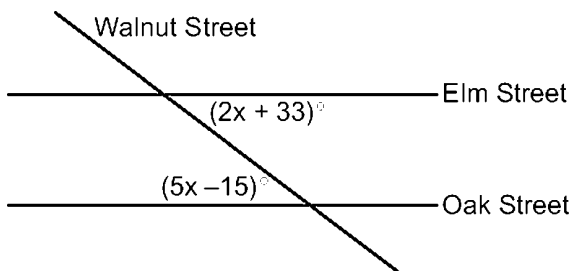
21. Line n intersects lines l and m , forming the angles shown in the diagram below.



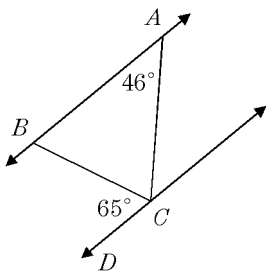
Which value of x would prove $l \parallel m$?

- A. 2.5 B. 4.5 C. 6.25 D. 8.75

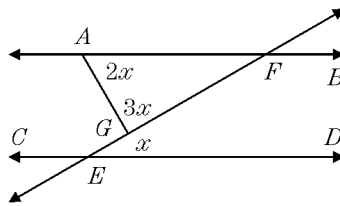
22. Two parallel roads, Elm Street and Oak Street, are crossed by a third, Walnut Street, as shown in the accompanying diagram. Find the number of degrees in the acute angle formed by the intersection of Walnut Street and Elm Street.



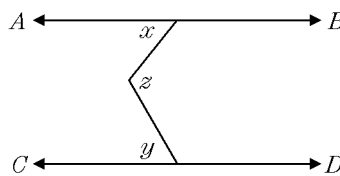
23. In the accompanying diagram, \overleftrightarrow{AB} is a parallel to \overleftrightarrow{CD} , $m\angle BAC = 46$, and $m\angle BCD = 65$. Find the measure of $\angle ACB$.



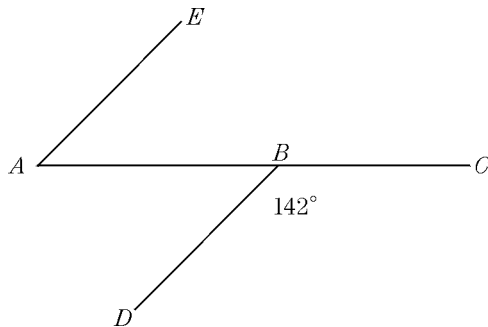
24. In the accompanying figure, \overleftrightarrow{EGF} intersects \overleftrightarrow{AB} and \overleftrightarrow{CD} , and \overleftrightarrow{AG} is drawn. If $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle FED = x$, $m\angle GAF = 2x$, and $m\angle FGA = 3x$, find x .



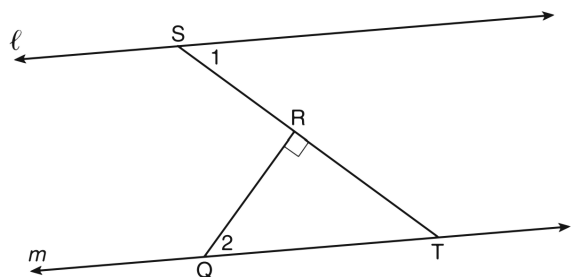
25. In the accompanying diagram, $\overleftrightarrow{AC} \parallel \overleftrightarrow{CD}$, $m\angle x = 50$, and $m\angle y = 60$. What is $m\angle z$?



26. In the accompanying diagram, \overleftrightarrow{AB} is extended to C , $m\angle DBC = 142$, and $\overleftrightarrow{AE} \parallel \overleftrightarrow{DB}$. Find $m\angle EAB$.



27. In the diagram below, $\ell \parallel m$ and $\overline{QR} \perp \overline{ST}$ at R .



If $m\angle 1 = 63$, find $m\angle 2$.

Parallel Lines 08/15/2015

1.
Answer: A
2.
Answer: D
3.
Answer: 60
4.
Answer: D
5.
Answer: 105
6.
Answer: 72
7.
Answer: C
8.
Answer: D
9.
Answer: 36
10.
Answer: A
11.
Answer: 100
12.
Answer: C
13.
Answer: 50
14.
Answer: 20
15.
Answer: 50
16.
Answer: 95
17.
Answer: 30
18.
Answer: 60
19.
Answer: 70
20.
Answer: B

21.
Answer: B
22.
Answer: 65
23.
Answer: 69
24.
Answer: 30
25.
Answer: 110
26.
Answer: 38
27.
Answer: 27