

MATH 2 EXAM REVIEW 2

Name: _____

Date: _____

1. What quantity should be added to both sides of this equation to complete the square?

$$x^2 - 8x = 5$$

- A. 4 B. -4 C. 16 D. -16

2. Leanne correctly solved the equation $x^2 + 4x = 6$ by completing the square. Which equation is part of her solution?

- A. $(x + 2)^2 = 8$ B. $(x + 2)^2 = 10$
 C. $(x + 4)^2 = 10$ D. $(x + 4)^2 = 22$

3. Marina starts to solve the quadratic equation $3x^2 + 5x - 2 = 0$.

$$\begin{aligned} 3x^2 + 5x - 2 &= 0 \\ \frac{3}{3}x^2 + \frac{5}{3}x &= \frac{2}{3} \\ x^2 + \frac{5}{3}x &= \frac{2}{3} \end{aligned}$$

What value should Marina add to both sides of the equation to complete the square?

- A. $\left(\frac{5}{6}\right)^2$ B. $\left(\frac{5}{3}\right)^2$ C. $-\frac{2}{3}$ D. $\frac{10}{3}$

4. What are the solutions to the equation below?

$$2x^2 - 11x - 21 = 0$$

- A. 7, -1.5 B. 4.5, 1.0
 C. 1, -21 D. 7, -3

5. What are the solutions of the equation below?

$$2n(3n - 12) = 0$$

- A. 0 and 4 B. 0 and 12
 C. 2 and 4 D. 2 and 12

6. Which is one of the solutions to the equation

$$2x^2 - x - 4 = 0?$$

- A. $\frac{1}{4} - \sqrt{33}$ B. $-\frac{1}{4} + \sqrt{33}$
 C. $\frac{1 + \sqrt{33}}{4}$ D. $\frac{-1 - \sqrt{33}}{4}$

7. Which of these is the *smaller* solution to the quadratic equation, $x^2 - 5x + 3 = 0$?

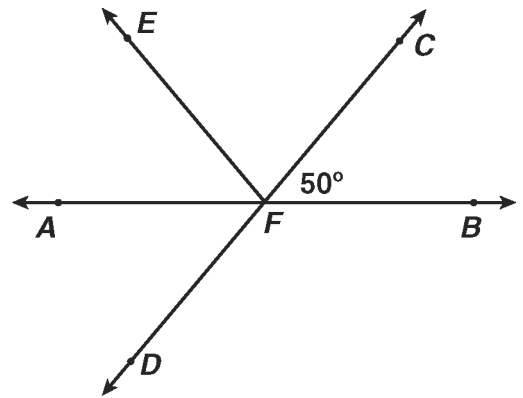
- A. $\frac{5\sqrt{13}}{2}$ B. $-\frac{5\sqrt{13}}{2}$
 C. $\frac{5 - \sqrt{13}}{2}$ D. $\frac{5 + \sqrt{13}}{2}$

8. What is the sum of the solutions for the quadratic equation below?

$$3x^2 + x - 2 = 0$$

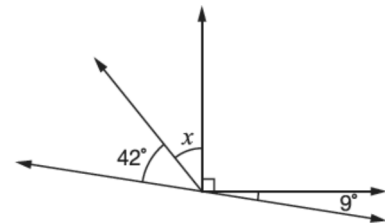
- A. $-1\frac{2}{3}$ B. $-\frac{1}{3}$ C. $\frac{1}{3}$ D. $1\frac{2}{3}$

9. In the figure below, \overleftrightarrow{CD} intersects \overleftrightarrow{AB} at F , $m\angle CFB = 50^\circ$, and $\angle EFA \cong \angle AFD$. What is $m\angle EFC$?



- A. 40° B. 50° C. 70° D. 80°

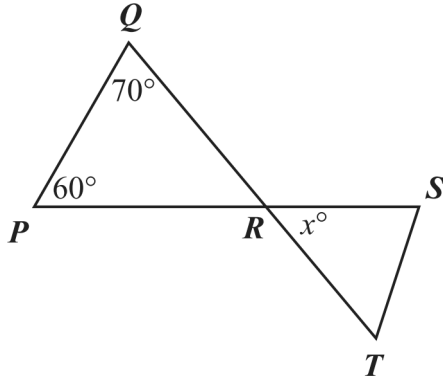
10. Use the figure below to answer the question.



What is the value of x ?

- A. 39° B. 48° C. 51° D. 81°

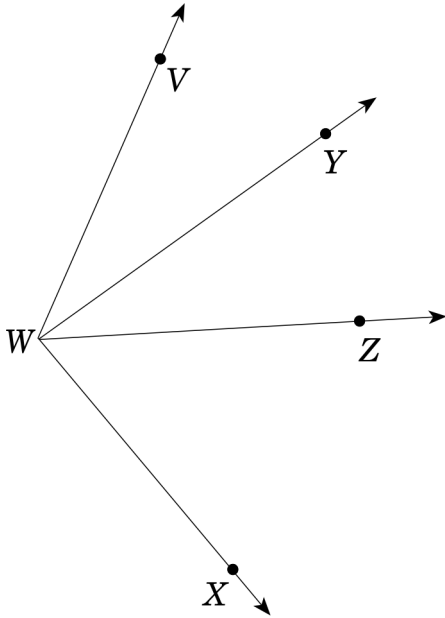
11. Triangle PQR , triangle RST , and two angle measures are shown below.



Line segment QT intersects line segment PS at point R .

What is the value of x ?

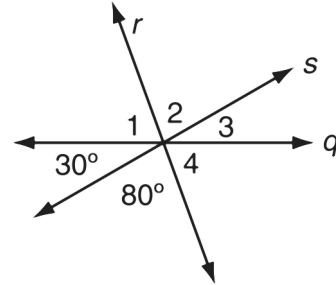
12. In the figure below, \overline{WY} bisects $\angle VWZ$, $m\angle VWY = 32$, and $m\angle VWX = 117$.



What is $m\angle ZWX$?

- A. 85 B. 53 C. 42.5 D. 26.5

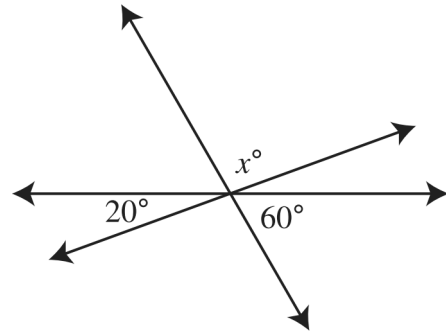
13. In the diagram below, lines r , s , and q intersect at one point.



What is the sum of the measures of $\angle 3$ and $\angle 4$?

- A. 90° B. 95° C. 100° D. 110°

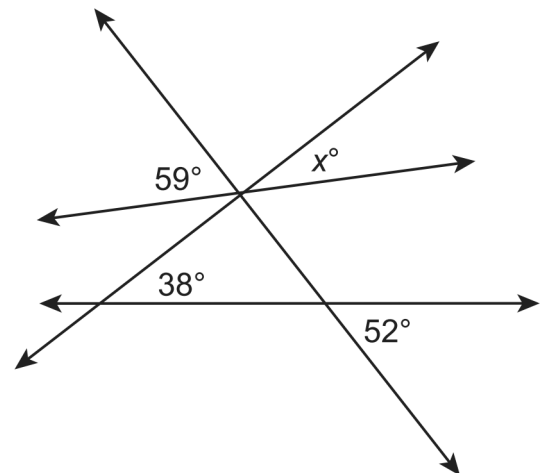
14. The diagram below shows three lines intersecting at the same point.



What is the value of x ?

- A. 10 B. 80 C. 100 D. 280

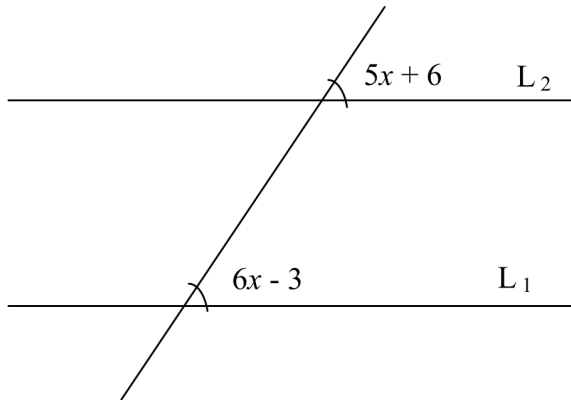
15. A figure is shown below.



What is the value of x ?

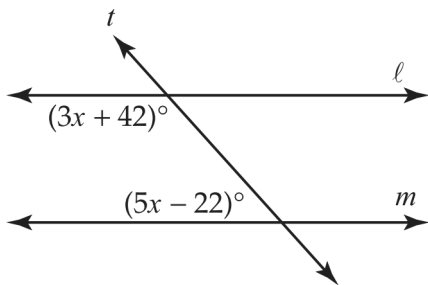
- A. 14 B. 21 C. 31 D. 45

16. What is the value of x in the figure below if L_1 is parallel to L_2 ?



- A. $x = \frac{9}{11}$ B. $x = 165\frac{9}{11}$
 C. $x = 9$ D. $x = -9$

17. Line ℓ is parallel to line m . Line t is a transversal with angle measures as indicated below.



Note: The figure is not drawn to scale.

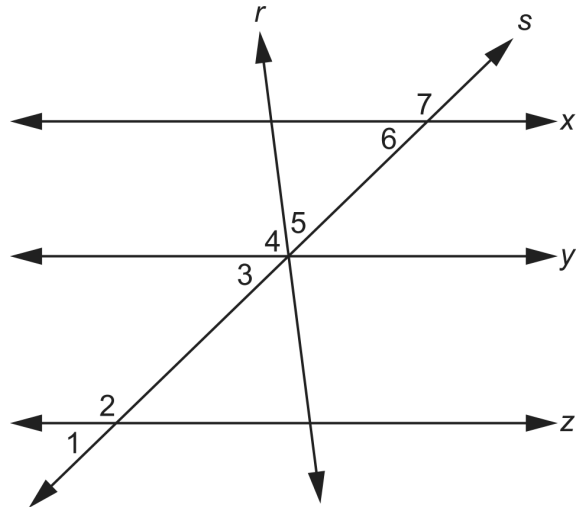
What is the value of x ?

- A. 16 B. 20 C. 25 D. 32

18. Angles T and V are complementary. Angle T has a measure of $(2x + 10)^\circ$. Angle V has a measure of 48° . What is the value of x ?

- A. 16° B. 19° C. 26° D. 42°

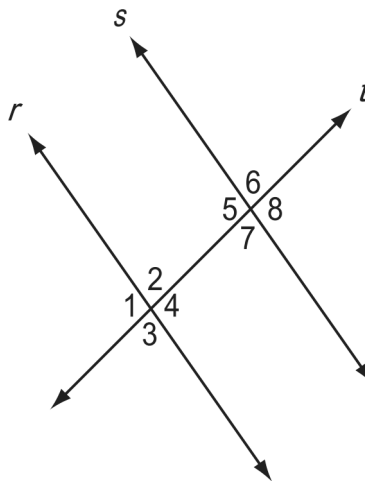
19. In the diagram below, lines x , y , and z are all parallel, and lines r and s intersect at line y .



Which equation must be true?

- A. $m\angle 1 = 180^\circ - m\angle 7$ B. $m\angle 2 = 90^\circ + m\angle 5$
 C. $m\angle 3 + m\angle 4 = m\angle 7$ D. $m\angle 5 + m\angle 6 = m\angle 7$

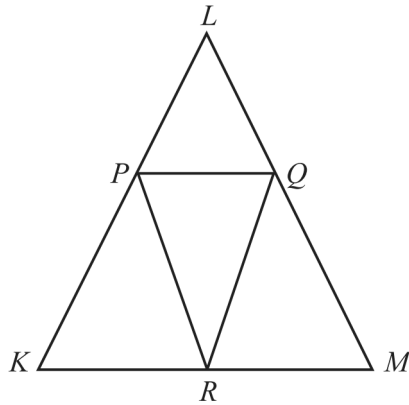
20. Parallel lines r and s are cut by transversal t , as shown in the diagram below.



Which of the following *must* be true?

- A. $m\angle 1 + m\angle 5 = 180^\circ$ B. $m\angle 2 + m\angle 8 = 180^\circ$
 C. $m\angle 1 = m\angle 7$ D. $m\angle 3 = m\angle 8$

21. In the figure below, \overline{PQ} is parallel to \overline{KM} .

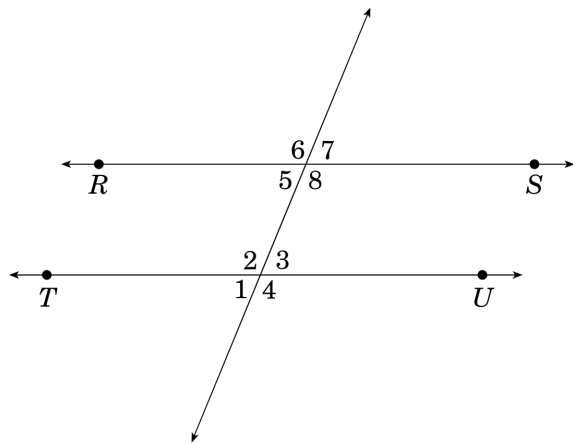


Note: The figure is not drawn to scale.

Which statement *must* be true about the figure?

- A. $\angle LPQ \cong \angle PKR$ B. $\angle LPQ \sim \angle LKM$
 C. $\angle PKR \cong \angle QRM$ D. $\angle PKR \sim \angle QRM$

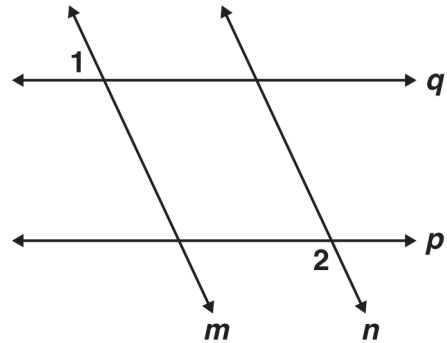
22. Given $\overrightarrow{RS} \parallel \overrightarrow{TU}$, $m\angle 7 = 3x - 10$, and $m\angle 3 = (2x + 5)$



What is $m\angle 1$?

- A. 145 B. 75 C. 35 D. 15

23. Given: $p \parallel q$;
 $m \parallel n$;
 $m\angle 1 = 75^\circ$

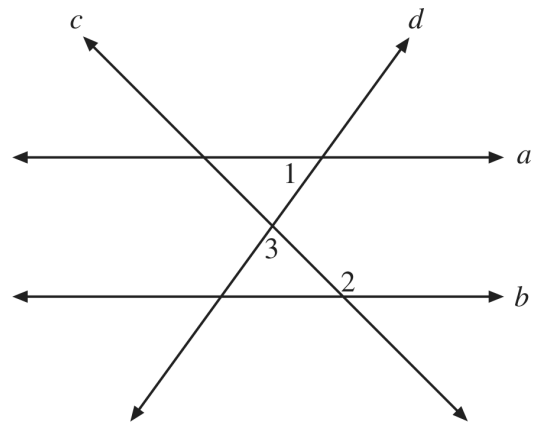


What is $m\angle 2$?

- A. 15° B. 75° C. 90° D. 105°

24. The diagram below has the following properties:

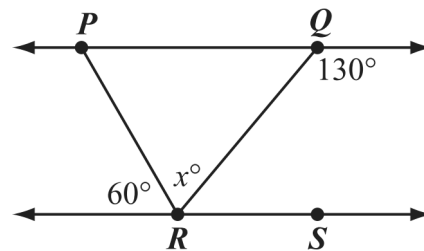
- Line a is parallel to line b.
- $m\angle 1 = 62^\circ$
- $m\angle 2 = 122^\circ$



What is $m\angle 3$?

- A. 56° B. 58° C. 60° D. 62°

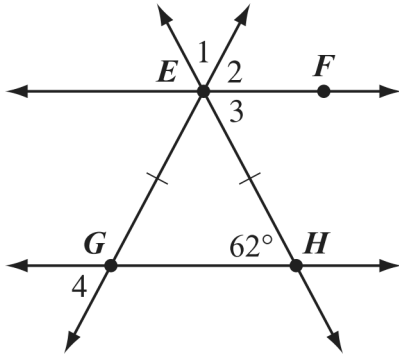
25. In the diagram below, \overrightarrow{PQ} and \overrightarrow{RS} are parallel.



Based on the angle measures in the diagram, what is the value of x ?

- A. 70 B. 60 C. 50 D. 40

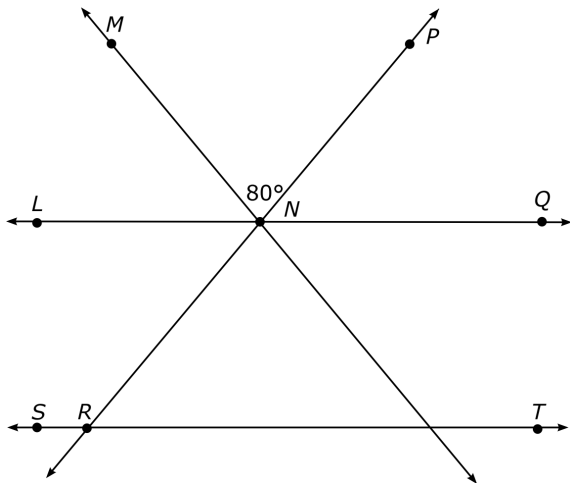
26. In the diagram below, $\vec{EF} \parallel \vec{GH}$ and $\vec{EG} \cong \vec{EH}$.



Based on the angle measure in the diagram, which of the following angles does *not* have a measure of 62° ?

- A. $\angle 1$ B. $\angle 2$ C. $\angle 3$ D. $\angle 4$

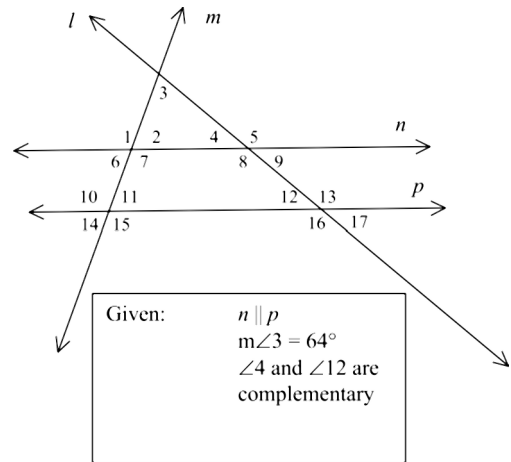
27. The figure below shows two parallel lines cut by two transversals.



Angles MNL and PNQ are congruent. What is the measure of angle NRS ?

- A. 100° B. 130° C. 150°

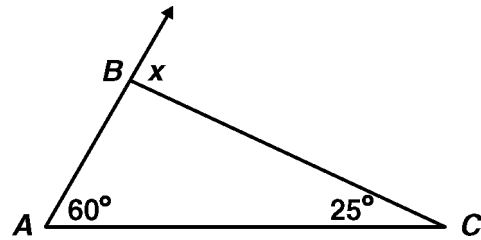
28.



The measure of $\angle 11$ equals

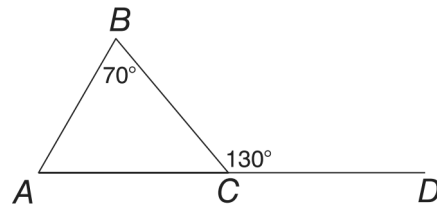
- A. 45° B. 58° C. 71° D. 109°

29. What is $m\angle x$?



- A. 35° B. 60° C. 85° D. 95°

30.



What is the measure of $\angle A$?

- A. 60° B. 120° C. 50° D. 130°

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1.
Answer: C
2.
Answer: B
3.
Answer: A
4.
Answer: A
5.
Answer: A
6.
Answer: C
7.
Answer: C
8.
Answer: B
9.
Answer: D
10.
Answer: A
11.
Answer: 50°
12.
Answer: B
13.
Answer: C
14.
Answer: C
15.
Answer: C
16.
Answer: C
17.
Answer:
18.
Answer: A
19.
Answer: A

20.
Answer: B
21.
Answer:
22.
Answer: C
23.
Answer: D
24.
Answer: C
25.
Answer: A
26.
Answer: A
27.
Answer: B
28.
Answer: C
29.
Answer: C
30.
Answer: A