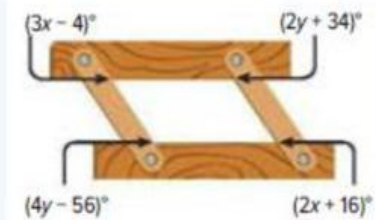


M2L3 Tests for Parallelograms — MULTIPLE-CHOICE ASSESSMENT

Choose the one correct answer for each question.

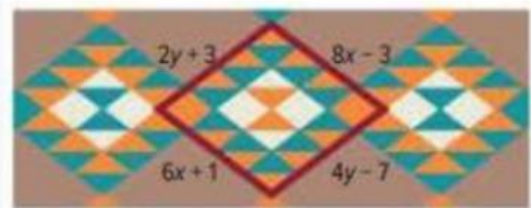
1. In the organizer diagram, find the values of x and y so the trays and hinges form a parallelogram. [Original #7]

- A. $x = 20, y = 45$
- B. $x = 20, y = 30$
- C. $x = 10, y = 45$
- D. $x = 30, y = 20$



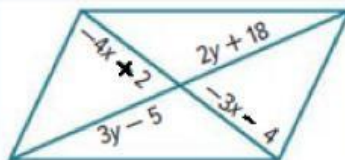
2. In the rug design, find the values of x and y so the quadrilateral shown is a parallelogram. [Original #8]

- A. $x = 2, y = 4$
- B. $x = 2, y = 5$
- C. $x = 5, y = 2$
- D. $x = 4, y = 5$



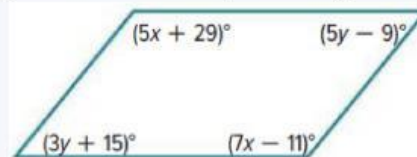
3. Find the values of x and y so the quadrilateral is a parallelogram. [Original #9]

- A. $x = 4, y = 23$
- B. $x = 6, y = 18$
- C. $x = 6, y = 23$
- D. $x = 8, y = 23$

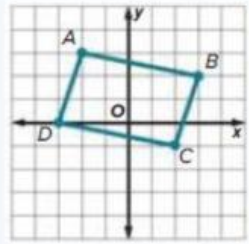


4. Find the values of x and y so the quadrilateral is a parallelogram. [Original #10]

- A. $x = 20, y = 20$
- B. $x = 18, y = 21.75$
- C. $x = 20, y = 22.5$
- D. $x = 20, y = 12$



5. Determine whether ABCD is a parallelogram. Justify your answer using the graph. [Original #11]



- A. Yes; both pairs of opposite sides have equal slopes.
- B. No; only one pair of opposite sides is parallel.
- C. Yes; all four sides have the same slope.
- D. No; the diagonals have different lengths.

6. For $P(0, 0)$, $Q(3, 4)$, $S(7, 4)$, $Y(4, 0)$, determine whether PQSY is a parallelogram using the Slope Formula. [Original #12]

- A. No; PQ and SY have different slopes.
- B. Yes; both pairs of opposite sides have equal slopes.
- C. No; QS and YP are not horizontal.
- D. Yes; all four sides have slope $4/3$.

7. For $S(-2, 1)$, $R(1, 3)$, $T(2, 0)$, $Z(-1, -2)$, determine whether SRTZ is a parallelogram using the Distance and Slope Formulas. [Original #13]

- A. No; adjacent sides are equal.
- B. No; opposite sides are not equal.
- C. Yes; the diagonals have the same slope.
- D. Yes; opposite sides have equal lengths and are parallel.

8. For $W(2, 5)$, $R(3, 3)$, $Y(-2, -3)$, $N(-3, 1)$, determine whether WRYN is a parallelogram using the Midpoint Formula. [Original #14]

- A. No; the diagonals have different midpoints.
- B. Yes; both diagonals have midpoint $(0, 1)$.
- C. Yes; the diagonals intersect at $(0, 2)$.
- D. No; all four vertices lie on one line.

9. For $W(1, -4)$, $X(-4, 2)$, $Y(1, -1)$, $Z(-2, -3)$, determine whether WXYZ is a parallelogram using the Slope Formula. [Original #15]

- A. Yes; WX and YZ both have slope $6/5$.
- B. Yes; all four sides have the same slope.
- C. No; WX and YZ have different slopes.
- D. No; XY and WZ are both vertical.

10. ABCD is a parallelogram with $A(5, 4)$, $B(-1, -2)$, and $C(8, -2)$. Find one possible set of coordinates for D. [Original #20]

- A. $(-4, 4)$
- B. $(14, -8)$
- C. $(2, 8)$
- D. $(14, 8)$

11. R(-2, -1), S(2, 1), and T(0, -3) are vertices of a parallelogram. Find all possible coordinates for the fourth vertex. [Original #21]

- A. (4, 5), (-4, -5), (4, -1)
- B. (4, 5), (-4, 5), (4, -1)
- C. (4, -5), (-4, 5), (-4, -1)
- D. (2, 4), (-2, -4), (4, -1)

12. If the slope of PQ is $\frac{2}{3}$ and the slope of QR is $-\frac{1}{2}$, what is the slope of SR so that PQRS is a parallelogram? [Original #22]

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

13. If the slope of AB is $\frac{1}{2}$ the slope of BC, the slope of BC is -4, and the slope of CD is $\frac{1}{2}$, find the slope of DA so that ABCD is a parallelogram. [Original #23]

- A. -4
- B. -2
- C. $\frac{1}{2}$
- D. 2

14. Refer to parallelogram ABCD. If AB = 8 cm and AD = 6 cm, what is the perimeter of the parallelogram? [Original #25]

- A. 14 cm
- B. 28 cm
- C. 48 cm
- D. 56 cm

