

MINISTRY OF EDUCATION

Badaa Al Mutawa School

MATHEMATICS • M2L4 Rectangle

Student Name: _____

Grade: _____

Date: _____

Subject: Mathematics

Subject Teacher: Abdulkader Amro

Assessment: Multiple-Choice Questions

M2L4RECTANGLES & COORDINATE GEOMETRY

Choose the one correct answer for each question. The source exercise number is shown in gray for reference.

PART I — RECTANGLE DIAGONALS & ANGLES

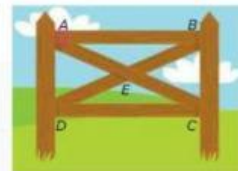
1. For the rectangular fence, $AB = 6$ ft and $AD = 2$ ft. What is BC ?

A. 2 ft

B. 4 ft

C. 6 ft

D. 8 ft



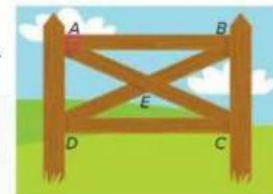
2. For the same rectangular fence, what is DB ? Round to the nearest tenth.

A. 4.0 ft

B. 6.3 ft

C. 8.0 ft

D. 10.0 ft



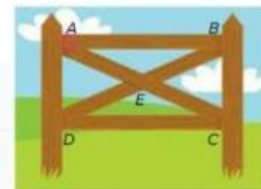
3. For the same diagram, $m\angle DAE = 65^\circ$. What is $m\angle CEB$?

A. 25°

B. 50°

C. 65°

D. 130°



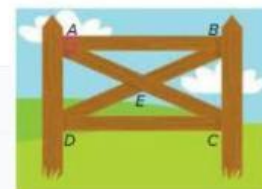
4. For the same diagram, $m\angle DAE = 65^\circ$. What is $m\angle EDC$?

A. 25°

B. 35°

C. 65°

D. 115°



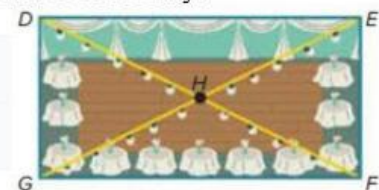
5. In the rectangular room, $DH = 44.5$ ft and $EF = 39$ ft. What is DG ? Round if necessary.

A. 40 ft

B. 78 ft

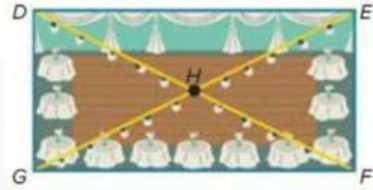
C. 80 ft

D. 89 ft



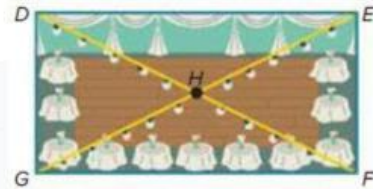
6. In the same rectangular room, $DH = 44.5$ ft. What is GE ?

- | | |
|-------------------|-----------------|
| A. 44.5 ft | B. 78 ft |
| C. 80 ft | D. 89 ft |



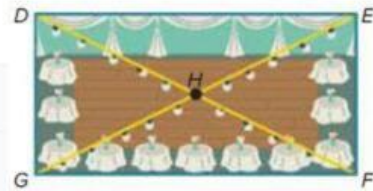
7. If $m\angle GHF = 128^\circ$, what is $m\angle EHF$?

- | | |
|---------------|----------------|
| A. 26° | B. 52° |
| C. 64° | D. 128° |



8. If $m\angle GHF = 128^\circ$, what is $m\angle HEF$?

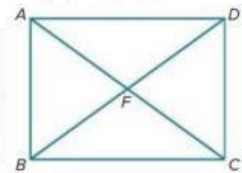
- | | |
|----------------------|----------------------|
| A. 26° | B. 52° |
| C. 64° | D. 90° |



PART II — RECTANGLE ANGLES & DIAGONALS

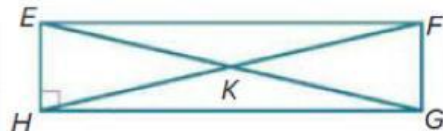
9. Quadrilateral ABCD is a rectangle. If $m\angle ADB = (4x + 8)^\circ$ and $m\angle DBA = (6x + 12)^\circ$, find x .

- | | |
|--------------|--------------|
| A. 7 | B. 8 |
| C. 10 | D. 12 |



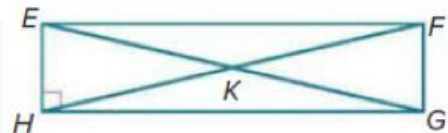
10. Quadrilateral EFGH is a rectangle. If $m\angle FEG = 57^\circ$, find $m\angle GEH$.

- | | |
|---------------|---------------|
| A. 23° | B. 33° |
| C. 57° | D. 90° |



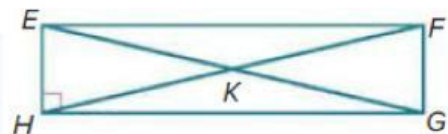
11. Quadrilateral EFGH is a rectangle. If $m\angle HGE = 13^\circ$, find $m\angle EGF$.

- | | |
|----------------------|----------------------|
| A. 13° | B. 67° |
| C. 77° | D. 90° |



12. Quadrilateral EFGH is a rectangle. If $FK = 32$ ft, find EG.

- | | |
|-----------------|------------------|
| A. 32 ft | B. 64 ft |
| C. 96 ft | D. 128 ft |



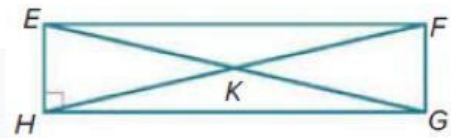
13. Find $m\angle HEF + m\angle EFG$ in rectangle EFGH.

A. 90°

B. 135°

C. 180°

D. 270°



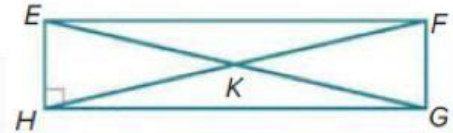
14. If $EF = 4x - 6$ and $HG = x + 3$ in rectangle EFGH, find EF.

A. 3

B. 6

C. 9

D. 12



PART III — CONGRUENCE PROOFS

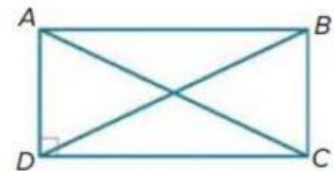
15. Given ABCD is a rectangle. To prove $\triangle ADC \cong \triangle BCD$, which congruence method is valid using the right angles and the shared side DC?

A. SAS

B. ASA

C. SSS

D. AAS



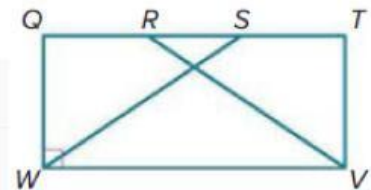
16. Given QTVW is a rectangle and $QR \cong ST$. To prove $\triangle QSW \cong \triangle VRT$, which congruence method is justified?

A. SSS

B. SAS

C. ASA

D. HL



PART IV — COORDINATE GEOMETRY: IS THE QUADRILATERAL A RECTANGLE?

17. $B(-4, 3)$, $G(-2, 4)$, $H(1, -2)$, $L(-1, -3)$; use the Slope Formula. Is BGHL a rectangle?

A. Yes; adjacent slopes are $1/2$ and -2 , and opposite sides have equal slopes.

B. No; all four slopes are equal.

C. No; adjacent slopes are both positive.

D. Yes; every side has slope 0.

18. $N(-4, 5)$, $O(6, 0)$, $P(3, -6)$, $Q(-7, -1)$; use the Distance Formula. Is NOPQ a rectangle?

A. No; adjacent sides have different lengths.

B. Yes; opposite sides have equal lengths and adjacent sides are perpendicular.

C. No; the diagonals are unequal.

D. Yes; all four sides have the same length.

19. C(0, 5), D(4, 7), E(5, 4), F(1, 2); use the Slope Formula. Is CDEF a rectangle?

A. No; adjacent sides have the same slope.	B. Yes; adjacent slopes are $\frac{1}{2}$ and -3 , which are perpendicular, and opposite sides are parallel.
C. No; opposite sides are perpendicular.	D. Yes; every side has slope -3 .

20. P(-3, -2), Q(-4, 2), R(2, 4), S(3, 0); use the Slope Formula. Is PQRS a rectangle?

A. Yes; adjacent slopes are -4 and $\frac{1}{3}$, which are negative reciprocals, and opposite sides are parallel.	B. No; adjacent slopes are equal.
C. No; all sides have positive slope.	D. Yes; every side has slope -4 .

21. J(-6, 3), K(0, 6), L(2, 2), M(-4, -1); use the Distance Formula. Is JKLM a rectangle?

A. No; opposite sides have different lengths.	B. Yes; opposite sides have equal lengths and adjacent sides are perpendicular.
C. No; all four sides are equal.	D. Yes; the perimeter is 0.

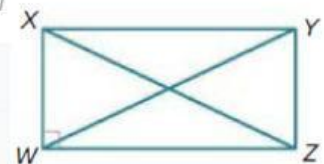
22. T(4, 1), U(3, -1), X(-3, 2), Y(-2, 4); use the Distance Formula. Is TUXY a rectangle?

A. No; adjacent sides have equal lengths.	B. Yes; opposite sides have equal lengths and adjacent sides are perpendicular.
C. No; opposite sides are perpendicular.	D. Yes; all four sides have length $\sqrt{5}$.

PART V — APPLYING RECTANGLE PROPERTIES

23. Refer to rectangle WXYZ. If $XW = 3$ and $WZ = 4$, find YW. [Source 29]

A. 3	B. 4
C. 5	D. 7



24. Refer to rectangle WXYZ. If $YZ = 6$ and $XY = 8$, find WY. [Source 30]

A. 6	B. 8
C. 10	D. 14

