

Name : _____

Score : _____

Distance Formula - Quadrilaterals

Sheet 1

- 1) Show that the points $A(1, 3)$, $B(4, 3)$, $C(4, 6)$ and $D(1, 6)$ are the vertices of a square.

- 2) Show that the points $P(-4, -7)$, $Q(-4, -4)$, $R(-9, -4)$ and $S(-9, -7)$ are the vertices of a rectangle.

- 3) Show that the points $K(2, -3)$, $L(3, -6)$, $M(4, -3)$ and $N(3, 0)$ are the vertices of a rhombus.

- 4) Show that the points $S(-3, 4)$, $T(-7, 4)$, $U(-8, 2)$ and $V(-4, 2)$ are the vertices of a parallelogram.

Distance Formula - Quadrilaterals

- 1) Show that the points A(1, 3), B(4, 3), C(4, 6) and D(1, 6) are the vertices of a square.

$$AB = BC = CD = DA = 3 \text{ units}$$

$$AC = BD = \sqrt{18} \text{ units}$$

Four sides are equal and diagonals are also equal.

The points A(1, 3), B(4, 3), C(4, 6) and D(1, 6) form a square.

- 2) Show that the points P(-4, -7), Q(-4, -4), R(-9, -4) and S(-9, -7) are the vertices of a rectangle.

$$PQ = RS = 3 \text{ units} ; QR = SP = 5 \text{ units}$$

$$PR = SQ = \sqrt{34} \text{ units}$$

Opposite sides are equal and diagonals are also equal.

The points P(-4, -7), Q(-4, -4), R(-9, -4) and S(-9, -7) form a rectangle.

- 3) Show that the points K(2, -3), L(3, -6), M(4, -3) and N(3, 0) are the vertices of a rhombus.

$$KL = LM = MN = NK = \sqrt{10} \text{ units}$$

$$KM = 2 \text{ units} ; LN = 6 \text{ units}$$

Four sides are equal and diagonals are not equal.

The points K(2, -3), L(3, -6), M(4, -3) and N(3, 0) form a rhombus.

- 4) Show that the points S(-3, 4), T(-7, 4), U(-8, 2) and V(-4, 2) are the vertices of a parallelogram.

$$ST = UV = 4 \text{ units} ; SV = TU = \sqrt{5} \text{ units}$$

$$SU = \sqrt{29} \text{ units} ; TV = \sqrt{13} \text{ units}$$

Opposite sides are equal and diagonals are not equal.

The points S(-3, 4), T(-7, 4), U(-8, 2) and V(-4, 2) form a parallelogram.

Distance Formula - Quadrilaterals

- 1) Show that the points $S(4, -5)$, $T(4, -8)$, $U(8, -8)$ and $V(8, -5)$ are the vertices of a rectangle.
-

- 2) Show that the points _____ are the vertices of a square.

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- 3) Show that the points _____ are the vertices of a parallelogram.
-

- 4) Show that the points $P(6, 3)$, $Q(10, 5)$, $R(6, 7)$ and $S(2, 5)$ are the vertices of a rhombus.
-

Distance Formula - Quadrilaterals

Sheet 2

- 1) Show that the points $S(4, -5)$, $T(4, -8)$, $U(8, -8)$ and $V(8, -5)$ are the vertices of a rectangle.

$$SV = TU = 4 \text{ units ; } ST = UV = 3 \text{ units}$$

$$SU = TV = 5 \text{ units}$$

Opposite sides are equal and diagonals are also equal.

The points $S(4, -5)$, $T(4, -8)$, $U(8, -8)$ and $V(8, -5)$ form a rectangle.

- 2) Show that the points _____ are the vertices of a square.

$$KL = LM = MN$$

$$KM = LN = \sqrt{32}$$

Four sides are equal

The points $K(-3, \dots)$

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- 3) Show that the points _____ are the vertices of a parallelogram.

$$AB = CD = 5 \text{ units}$$

$$AC = 5 \text{ units ;}$$

Opposite sides are equal

The points $A(-8, \dots)$

Parallelogram.

- 4) Show that the points $P(6, 3)$, $Q(10, 5)$, $R(6, 7)$ and $S(2, 5)$ are the vertices of a rhombus.

$$PQ = QR = RS = SP = \sqrt{20} \text{ units}$$

$$PR = 4 \text{ units ; } QS = 8 \text{ units}$$

Four sides are equal and diagonals are not equal.

The points $P(6, 3)$, $Q(10, 5)$, $R(6, 7)$ and $S(2, 5)$ form a rhombus.

Distance Formula - Quadrilaterals

- 1) Show that the points $E(-3, -5)$, $F(-5, -4)$, $G(-7, -5)$ and $H(-5, -6)$ are the vertices of a rhombus.
-

- 2) Show that the points _____ a parallelogram.

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- 3) Show that the points _____ ces of a square.

- 4) Show that the points $K(-9, 7)$, $L(-2, 7)$, $M(-2, 9)$ and $N(-9, 9)$ are the vertices of a rectangle.
-

Distance Formula - Quadrilaterals

- 1) Show that the points E(-3, -5), F(-5, -4), G(-7, -5) and H(-5, -6) are the vertices of a rhombus.

$$EF = FG = GH = HE = \sqrt{5} \text{ units}$$

$$EG = 4 \text{ units ; FH} = 2 \text{ units}$$

Four sides are equal and diagonals are not equal.

The points E(-3, -5), F(-5, -4), G(-7, -5) and H(-5, -6) form a rhombus.

- 2) Show that the points S(2, 3), T(8, 3), U(8, 7) and V(2, 7) are the vertices of a parallelogram.

$$SV = TU = 6 \text{ units}$$

$$SU = \sqrt{34} \text{ units}$$

Opposite sides are equal.

The points S(2, 3), T(8, 3), U(8, 7) and V(2, 7) form a parallelogram.

- 3) Show that the points P(4, 4), Q(4, 8), R(8, 8) and S(8, 4) are the vertices of a square.

$$PQ = QR = RS = SP = 4 \text{ units}$$

$$PR = QS = \sqrt{50} \text{ units}$$

Four sides are equal and diagonals are also equal.

The points P(4, 4), Q(4, 8), R(8, 8) and S(8, 4) form a square.

- 4) Show that the points K(-9, 7), L(-2, 7), M(-2, 9) and N(-9, 9) are the vertices of a rectangle.

$$KL = MN = 7 \text{ units ; LM} = KN = 2 \text{ units}$$

$$KM = LN = \sqrt{53} \text{ units}$$

Opposite sides are equal and diagonals are also equal.

The points K(-9, 7), L(-2, 7), M(-2, 9) and N(-9, 9) form a rectangle.

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