HW #18

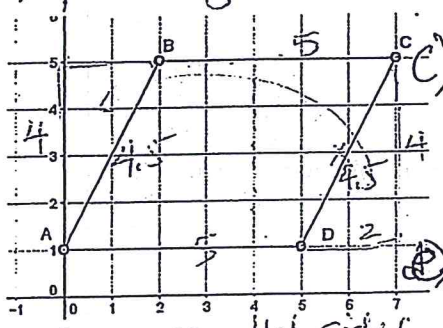
Geometry - Quadrilaterals
Definitions, Area, and Perimeter

Name_____

Figure out areas by breaking into triangles & rectangles
$\frac{1}{2}bh$
base·height

For each quadrilateral graphed, give
a) Type and name of quadrilateral b) Why it is this type of quadrilateral (see definition)
c) area in square units d) side lengths e) perimeter

1) a) parallelogram ABCD write on sides, show work if P.T.



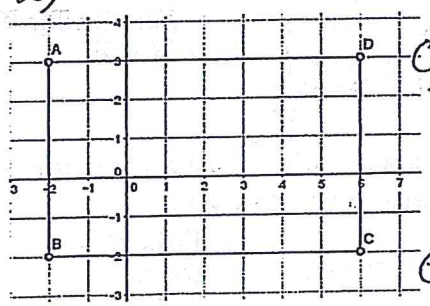
c) $5 \cdot 4 = 20\,un^2$

$x^2 = \sqrt{2^2 + 4^2}$
$\sqrt{20}$
≈ 4.5

e) $5 \cdot 2 + 4.5 \cdot 2$
$= 19\,un.$

b) 2 pairs parallel sides

2) a)

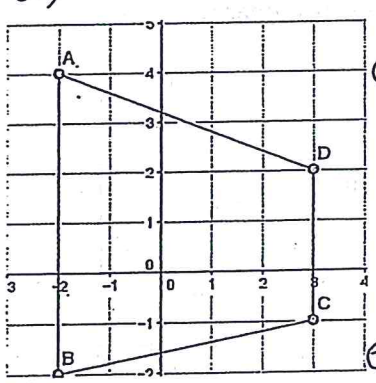


c)

e)

b)

3) a)

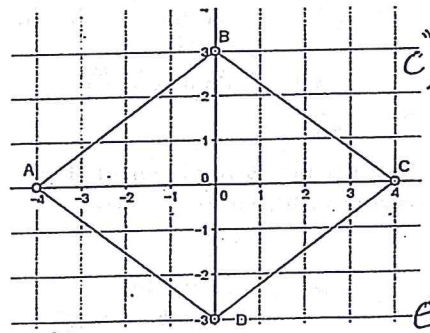


c)

e)

b)

4) a)

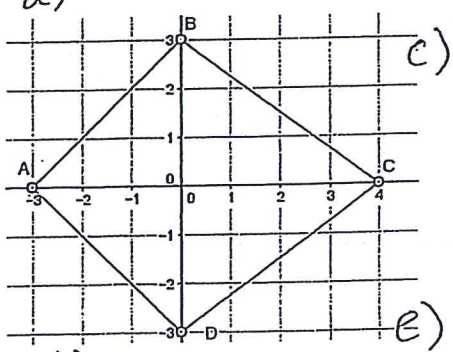


c)

e)

b)

5) a)



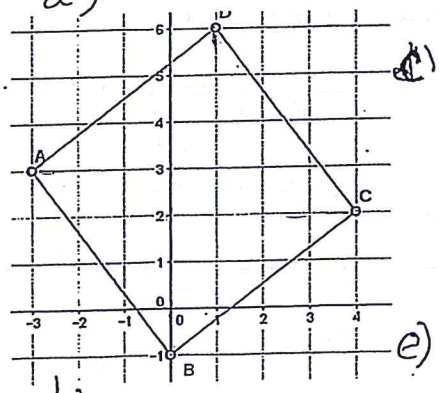
c)

e)

b)

6) a)

Hint: square in middle, 4 right triangles.



c)

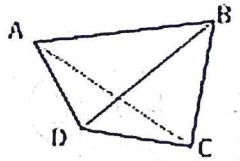
e)

b)

Answer

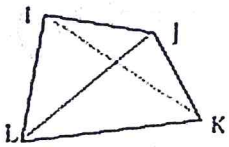
For these... choose the best answer.

1. Which choice below would ensure that quadrilateral ABCD is a rhombus?



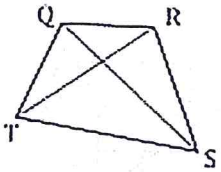
A. $\overline{AB} \cong \overline{CD}$
B. $\overline{AC} \cong \overline{BD}$
C. $\overline{AB} \cong \overline{CD} \cong \overline{BC} \cong \overline{DA}$
D. $\overline{AC} \perp \overline{BD}$

3. Which choice below would ensure that quadrilateral IJKL is a trapezoid?



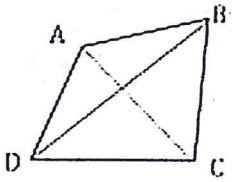
A. $\overline{IJ} \cong \overline{JK}$
B. $\overline{IJ} \parallel \overline{KL}$
C. $\overline{IJ} \cong \overline{KL}$
D. $\overline{KL} \cong \overline{LI}$

5. Which choice below would ensure that quadrilateral QRST is a square?



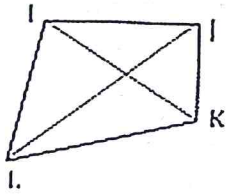
A. $\overline{QS} \cong \overline{RT}$
B. $\overline{QS} \cong \overline{RT}$, $\overline{RT} \perp \overline{QS}$, $\overline{QS}$ and $\overline{RT}$ bisect each other
C. $\overline{QR} \perp \overline{QT}$, $\overline{QR} \cong \overline{QT}$
D. $\overline{QS}$ bisects $\overline{RT}$

7. Which choice below would ensure that quadrilateral ABCD is a rhombus?



A. $\overline{AC} \cong \overline{BD}$
B. $\overline{AC}$ bisects $\overline{BD}$
C. $\overline{AC} \perp \overline{DB}$, $\overline{AC}$ and $\overline{BD}$ bisect each other
D. None of these

9. Which choice below would ensure that quadrilateral IJKL is a kite?



A. $\overline{IJ} \cong \overline{JK}$, $\overline{KL} \cong \overline{LI}$
B. $\overline{IJ} \parallel \overline{KL}$
C. $\overline{IK} \cong \overline{JL}$, $\overline{JK} \cong \overline{IL}$
D. $\overline{KL} \cong \overline{LI}$

~~Bubble~~ T for True and F for False.

1. A rectangle is also a parallelogram.

3. All parallelograms are also rhombi.

5. A parallelogram is also a trapezoid.

7. A rhombus is always a square.

9. All parallelograms are also squares.

11. A kite is always a rhombus.

13. A rectangle is both a parallelogram and a square.

15. All parallelograms are rectangles.

17. If a figure is a trapezoid then it is a parallelogram.