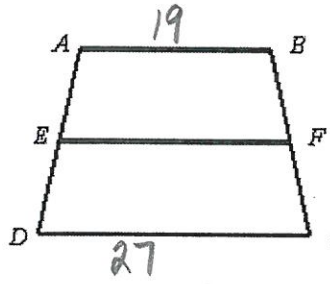
Name: _____ Class: _____ Date: _____ ID: B

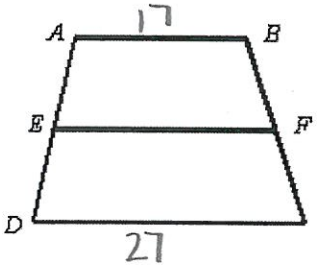
## Geometry B Quiz 8.5, 8.6

1. Given: Trapezoid $ABCD$ with midsegment $\overline{EF}$. If $AB = 19$ and $DC = 27$, find the length of $\overline{EF}$.



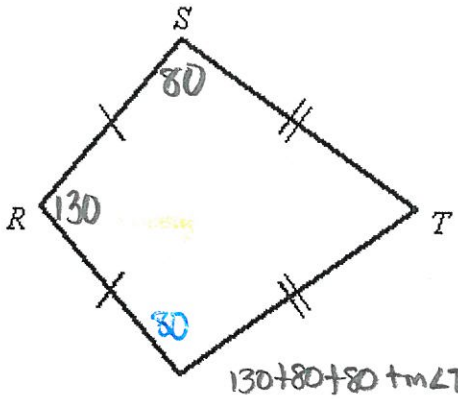

$EF = \frac{1}{2}(AB+DC)$
$EF = \frac{1}{2}(19+27)$
$EF = \frac{1}{2}(46)$
$EF = 23$

2. Given: Trapezoid $ABCD$ with midsegment $\overline{EF}$. If $AB = 17$ and $DC = 27$, find the length of $\overline{EF}$.



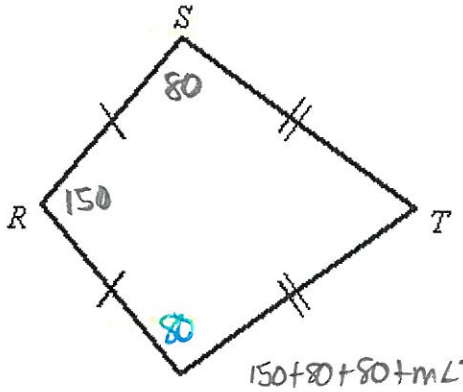

$EF = \frac{1}{2}(AB+DC)$
$EF = \frac{1}{2}(17+27)$
$EF = \frac{1}{2}(44)$
$EF = 22$

3. Find $m\angle T$ in the diagram, if $m\angle R = 130°$ and $m\angle S = 80°$.




$130+80+80+m\angle T=360$
$290+m\angle T=360$
$-290 \quad -290$
$m\angle T = 70°$

4. Find $m\angle T$ in the diagram, if $m\angle R = 150°$ and $m\angle S = 80°$.




$150+80+80+m\angle T=360$
$310+m\angle T=360$
$-310 \quad -310$
$m\angle T = 50°$

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**True or False:**

5. If a quadrilateral is a parallelogram, then it is a kite.

FALSE

6. If a quadrilateral is a kite, then it is a parallelogram.

FALSE

7. If a quadrilateral is a rhombus, then it is a kite.

FALSE

8. Which statement is false?
   a. Every kite is a parallelogram.
   b. All rhombuses are quadrilaterals.
   c. Every rectangle is a quadrilateral.
   d. All parallelograms are quadrilaterals.

9. Which statement is false?
   a. All rectangles are parallelograms.
   b. Every parallelogram is a square.
   c. All rectangles are quadrilaterals.
   d. All squares are parallelograms.

10. Which statement is false?
    a. Every rhombus is a quadrilateral.
    b. Some rhombuses are rectangles.
    c. Every square is a parallelogram.
    d. Every parallelogram is a rhombus.

11. Which statement is false?
    a. Some squares are rhombuses.
    b. No rhombuses are kites.
    c. If a quadrilateral is a square, then it is a kite.
    d. If a quadrilateral is a rhombus, then it is a square.

12. Which statement is false?
    a. If a quadrilateral is a square, then it is a parallelogram.
    b. All squares are rectangles.
    c. Some rhombuses are rectangles.
    d. If a quadrilateral is a parallelogram, then it is a kite.

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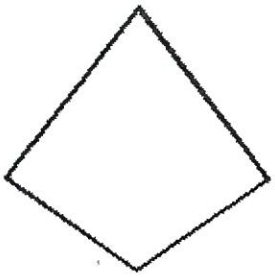
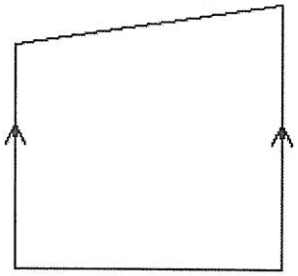
13. Describe the figure using as many of these words as possible: rectangle, trapezoid, square, quadrilateral, parallelogram, rhombus.



Quadrilateral

14. Describe the figure using as many of these words as possible: rectangle, trapezoid, square, quadrilateral, parallelogram, rhombus.



Quadrilateral
Trapezoid

15. Identify the quadrilateral which has one pair of parallel sides.

Trapezoid

16. Identify the quadrilateral which has two pairs of parallel sides.

Parallelogram, Rectangle, Rhombus, Square

17. Which description does NOT guarantee that a quadrilateral is a square?
    a. has all sides congruent and all angles congruent
    b. is both a rectangle and a rhombus
    c. has all right angles and has all sides congruent
    d. is a parallelogram with perpendicular diagonals

18. Which description does NOT guarantee that a quadrilateral is a rectangle?
    a. a quadrilateral with all four angles right
    b. a quadrilateral with diagonals that are congruent and bisect each other
    c. a quadrilateral with all congruent angles
    d. a parallelogram with congruent sides

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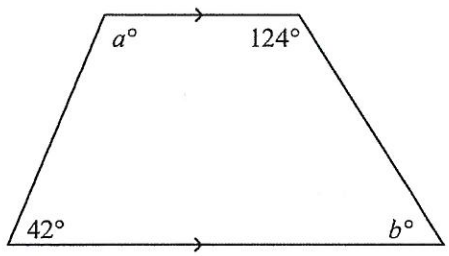
19. Which statement is true?
a. All parallelograms are rectangles.
b. All parallelograms are quadrilaterals.
c. All rectangles are squares.
d. All quadrilaterals are parallelograms.

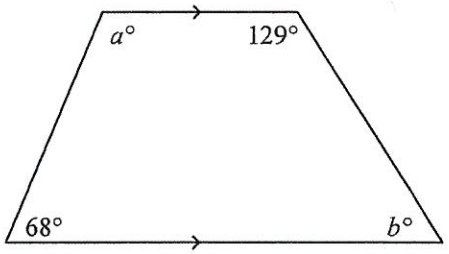
20. Find the values of $a$ and $b$. The diagram is not to scale.




a. $a = 124, b = 42$
b. $a = 138, b = 56$
c. $a = 138, b = 42$
d. $a = 124, b = 56$

180 − 42 = 138°  180 − 124 = 56°

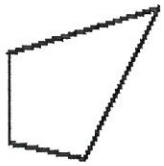
21. Find the values of $a$ and $b$. The diagram is not to scale.



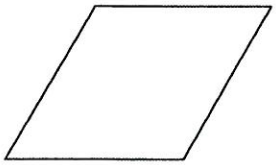

a. $a = 112, b = 68$
b. $a = 112, b = 51$
c. $a = 129, b = 51$
d. $a = 129, b = 68$

180 − 68 = 112°  180 − 129 = 51°

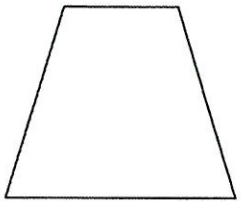
22. Judging by appearances, which figure is a trapezoid?
a.



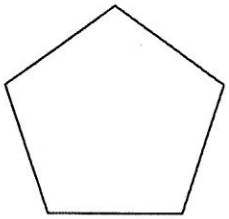
b.



c.



d.



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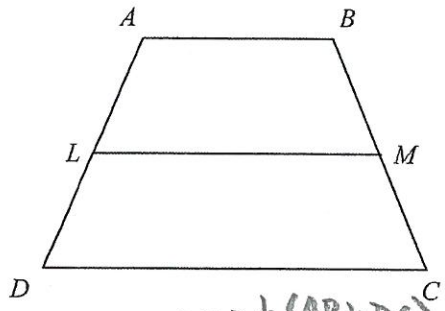
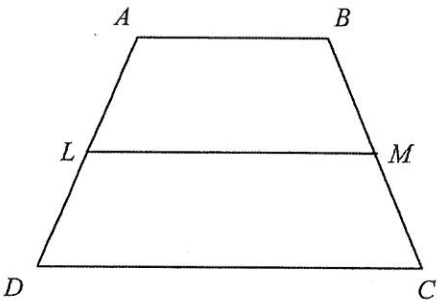
23. $\overline{LM}$ is the midsegment of $\square ABCD$. $AB = 28$ and $DC = 78$. What is $LM$?




$LM = \frac{1}{2}(AB + DC)$
$= \frac{1}{2}(28 + 78)$
$= \frac{1}{2}(106)$
$= 53$

a. 106
b. 53
c. 50
d. 63

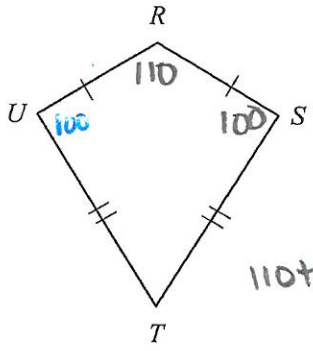
24. $\overline{LM}$ is the midsegment of $\square ABCD$. $AB = 24$ and $DC = 192$. What is $LM$?




$LM = \frac{1}{2}(AB + DC)$
$= \frac{1}{2}(24 + 192)$
$= \frac{1}{2}(216)$
$= 108$

a. 108
b. 168
c. 216
d. 118

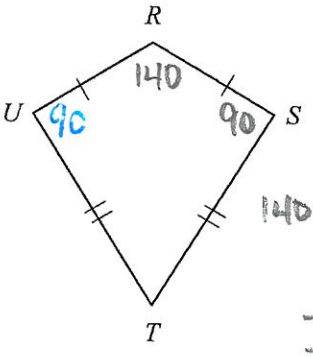
25. $m\angle R = 110$ and $m\angle S = 100$. Find $m\angle T$. The diagram is not to scale.




$110 + 100 + 100 + m\angle T = 360$
$310 + m\angle T = 360$
$-310 \quad -310$
$m\angle T = 50°$

a. 25
b. 100
c. 55
d. 50

26. $m\angle R = 140$ and $m\angle S = 90$. Find $m\angle T$. The diagram is not to scale.




$140 + 90 + 90 + m\angle T = 360$
$320 + m\angle T = 360$
$-320 \quad -320$
$m\angle T = 40°$

a. 40
b. 70
c. 20
d. 90