Pg 556 Chapter Test

1. $(5-2)180 = 540$

$$x + 103 + 122 + 98 + 99 = 540$$
$$x + 422 = 540$$
$$\underline{-422 \quad -422}$$
$$\boxed{x = 118}$$

2. $(8-2)180 = 1080$

$$90 + 146 + 150 + 143 + 112 + 94 + 5x + 170 = 1080$$
$$5x + 925 = 1080$$
$$\underline{-925 \quad -925}$$
$$\frac{5x}{5} = \frac{155}{5}$$
$$x = 31$$

3. external $= 360$
$$82 + x + 59 + 47 + 36 + 65 = 360$$
$$x + 289 = 360$$
$$\boxed{x = 71}$$

4.

$$x + x + 40 = 180$$
$$2x + 40 = 180$$
$$\underline{-40 \quad -40}$$
$$\frac{2x}{2} = \frac{140}{2}$$
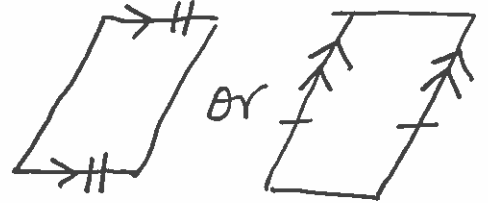$$\boxed{x = 70}$$

consecutive angles
are supplementary

5. no - we don't know anything about the sides being parallel or congruent
   - OR - if the other angles are congruent to each other.

6. yes - diagonals bisect each other.

7. no - the opposite sides must be both parallel and congruent

8. rhombus, square

9. rectangle, square

10. rectangle, square

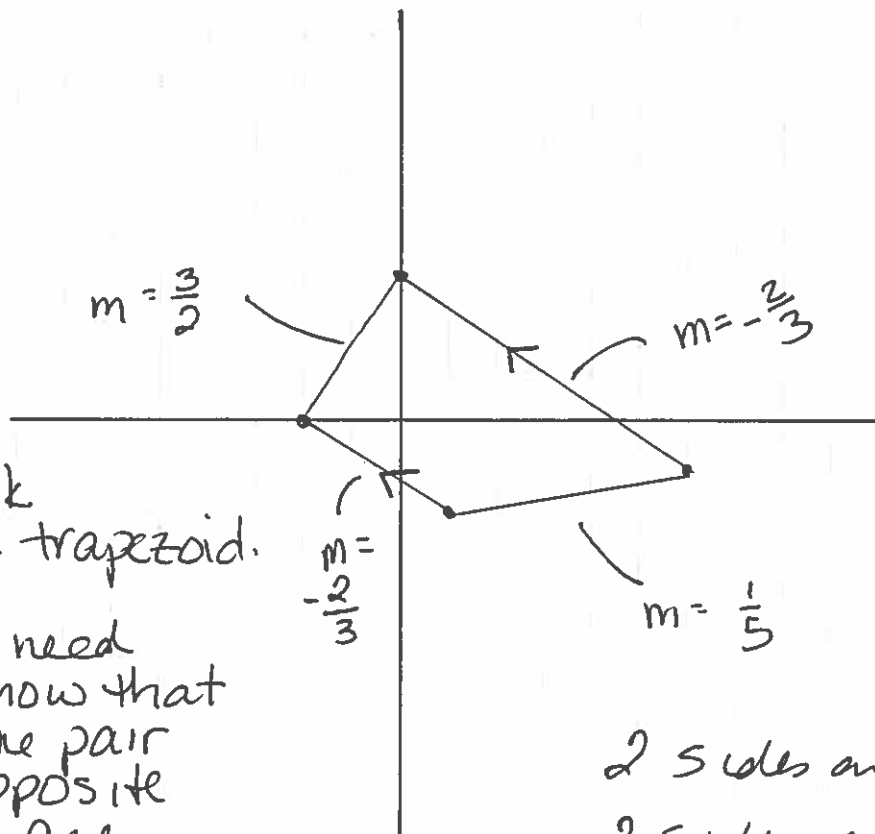11. parallelogram, rectangle, rhombus, square.

12. See graph paper

13. a. see graph paper

    b. see graph paper

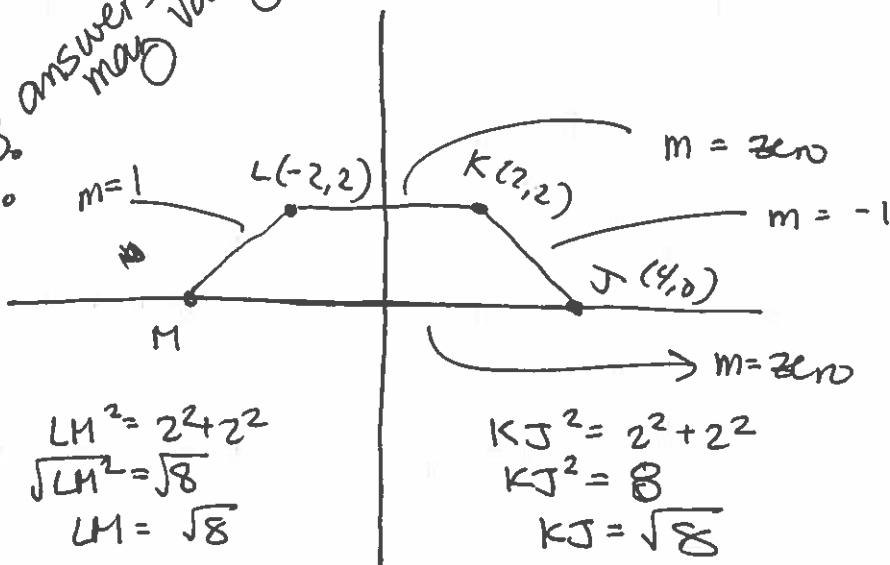   c. trapezoid, parallelogram, rectangle.

12.

$m = \frac{3}{2}$ $m = -\frac{2}{3}$

$m = -\frac{2}{3}$

$m = \frac{1}{5}$

I think
it's a trapezoid.

SO... I need
to show that
only one pair
of opposite
sides are
parallel

2 sides are ∥
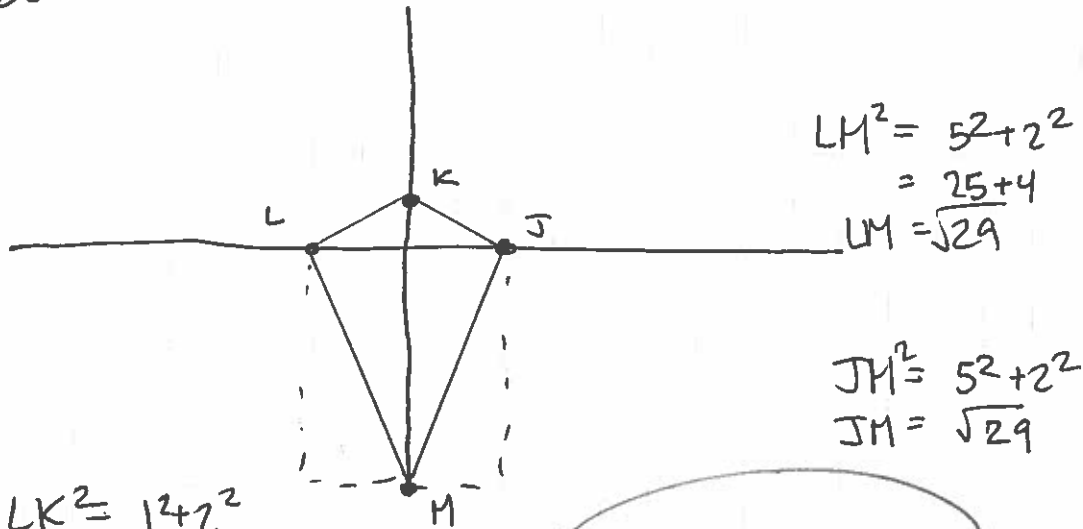2 sides are not
_____
trapezoid.

13. answers may vary!

a.

$m = 1$ $L(-2,2)$ $K(2,2)$ $m = zero$

$m = -1$

$J(4,0)$

M

$m = zero$

$LM^2 = 2^2 + 2^2$
$\sqrt{LM^2} = \sqrt{8}$
$LM = \sqrt{8}$

$KJ^2 = 2^2 + 2^2$
$KJ^2 = 8$
$KJ = \sqrt{8}$

$LK \parallel JM$
LM not $\parallel KJ$

$LM \cong KJ$

Isosceles
trapezoid.

13b.

$$LM^2 = 5^2 + 2^2$$
$$= 25 + 4$$
$$LM = \sqrt{29}$$

$$JM^2 = 5^2 + 2^2$$
$$JM = \sqrt{29}$$

$$LK^2 = 1^2 + 2^2$$
$$1 + 4$$
$$LK = \sqrt{5}$$

$$KJ^2 = 1^2 + 2^2$$
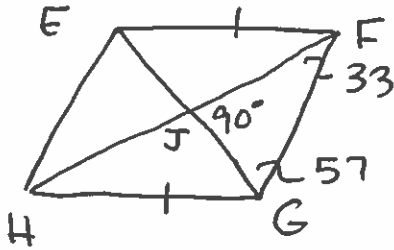$$KJ = \sqrt{5}$$

$\boxed{LM \cong JM}$

$\boxed{LK \cong KJ}$

2 consecutive pairs of sides are congruent.

13c. trapezoid, parallelogram, rectangle.

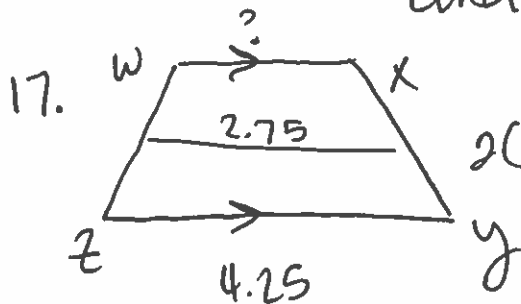14. trapezoid - only one pair of opposite sides are parallel

15. Rhombus -

$180-33-57 = \boxed{90}$ so the

diagonals are $\perp$.

$\boxed{\text{Rhombus}}$

we don't know the corner measurements so we don't know if it's a square.

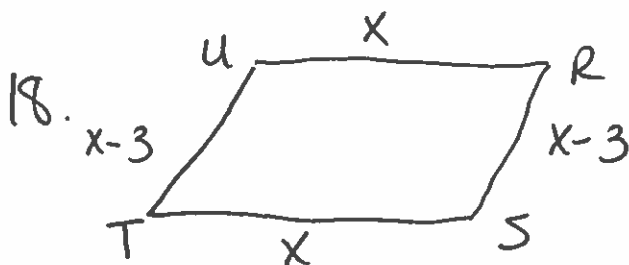16. Kite   pair of consecutive congruent sides and the angle is bisected

17.

$2(2.75) = \frac{1}{2}(4.25 + WX) \times 2$

$5.50 = 4.25 + WX$

$\underline{-4.25 \quad -4.25}$

$\boxed{1.25 \text{ cm} = WX}$

18.

$\boxed{\begin{array}{l} TS, UR = 12 \text{ cm} \\ UT, RS = 9 \text{ cm} \end{array}}$

$X + X - 3 + X + X - 3 = 42$

$4X - 6 = 42$

$\underline{+6 \qquad +6}$

$4X = 48$

$X = 12$