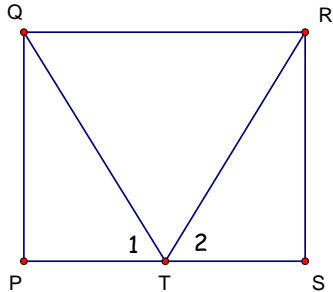


1. Given: Rectangle PQRS

$$\angle 1 \cong \angle 2$$

Prove:  $\triangle RQT$  is isosceles

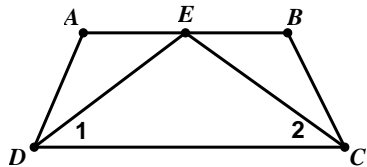


2. Given: Isosceles Trapezoid ABCD

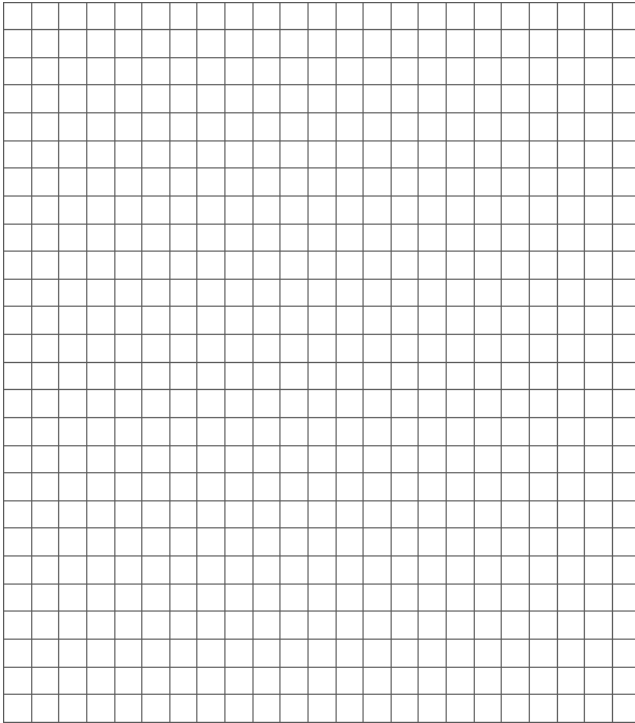
$$\overline{AB} \parallel \overline{DC}$$

E is the midpoint of  $\overline{AB}$

Prove:  $\angle 1 \cong \angle 2$



3. Given quadrilateral ABCD with vertices A(1,1), B(2,5), C(10,3), and D(9,-1). Using coordinate geometry, prove:

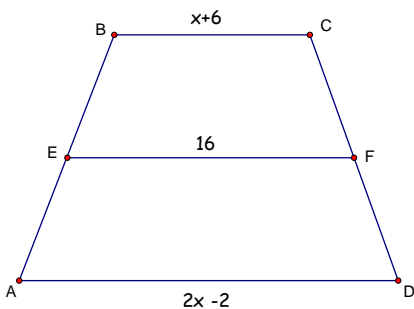


a. ABCD is a parallelogram.

b. ABCD is **not** a Rhombus.

3. EF is the Median of trapezoid ABCD.

a. Find the value of x.



b. If  $m\angle BEF = 65^\circ$ , what is  $m\angle BAD$ ?

4. In parallelogram ABCD,  $AB=(2x+50)$  and  $CD=(3x+40)$ . Find AB.

5. In parallelogram ABCD,  $m\angle A=(2x)^\circ$  and  $m\angle B=(2x-20)^\circ$ . Find x.

6. If the measures of two opposite angles of an isosceles trapezoid are  $(2x+20)^\circ$  and  $(3x)^\circ$ , what is the value of x?

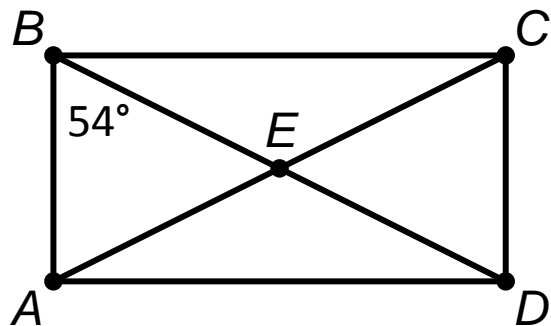
7. In rhombus ABCD, the lengths of sides  $\overline{AB}$  and  $\overline{CD}$  are represented by  $3x-8$  and  $2x+1$ , respectively. Find the value of x.

8. In rectangle ABCD, diagonals  $\overline{AC}$  and  $\overline{BD}$  intersect at point E. If  $AE=20$  and  $BD=2x+30$ , find x.

9. Rectangle ABCD,  $m\angle ABE = 54^\circ$ . What is the measure of:

a.  $\angle CBE$

b.  $\angle DEA$ ?



10. Which one of the following statements about a figure ABCD would *always* be true?
- a) If ABCD is a parallelogram, then it must be a trapezoid.
  - b) If ABCD is a quadrilateral, then it must be a parallelogram.
  - c) If ABCD is a rectangle, then it must be a square.
  - d) If ABCD is a parallelogram, then it must be a quadrilateral.

11. Which one of the following properties is *not* true for all parallelograms?
- a) Opposite angles are congruent.
  - b) Consecutive angles are supplementary.
  - c) Opposite sides are congruent.
  - d) Diagonals are congruent.

12. Which one of the following quadrilaterals *must* have congruent diagonals?
- a) rectangle
  - b) trapezoid
  - c) parallelogram
  - d) rhombus

13. A parallelogram *must* be a rectangle if its diagonals
- a) bisect the angles to which they are drawn.
  - b) bisect each other.
  - c) are congruent.
  - d) are perpendicular.

14. Which one of the following figures can *not* have *both* pairs of opposite sides parallel?
- a) rhombus
  - b) parallelogram
  - c) trapezoid
  - d) rectangle

19. What is an example of a quadrilateral whose diagonals are congruent but do *not* bisect each other?
- a) an isosceles trapezoid
  - b) a rhombus
  - c) a square
  - d) a rectangle

15. A quadrilateral has diagonals that are congruent but *not* perpendicular. The quadrilateral contains no right angles. The quadrilateral could be
- a) a rhombus
  - b) a square
  - c) an isosceles trapezoid
  - d) a rectangle

16. A quadrilateral with four congruent sides and an angle measuring  $60^\circ$  *must* be a
- a) rhombus
  - b) rectangle
  - c) trapezoid
  - d) square