

## Handout 2: If It's Not A Right Angle...

### Answers

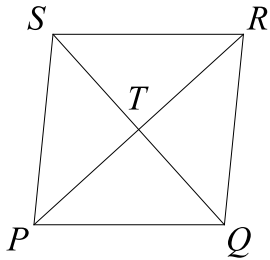


Figure 1

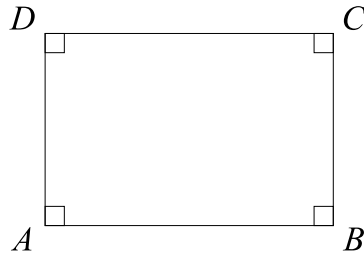


Figure 2

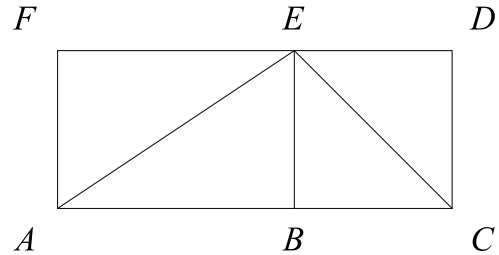


Figure 3

Use Figure 1 for questions 1-4.

1. If  $SR = 3$  mm and  $PS = 4$  mm, what is the length of  $\overline{SQ}$ ?

5 mm.

2. How do we know that  $\triangle SRT \cong \triangle QPT$ ?

Rectangles have congruent diagonals that bisect each other. We also know that opposite sides of a rectangle are congruent. So this means  $\overline{PT} \cong \overline{TR}$ ,  $\overline{ST} \cong \overline{TQ}$  and  $\overline{SR} \cong \overline{PQ}$ . According to the SSS Postulate, that means  $\triangle SRT \cong \triangle QPT$ .

3. If  $TQ = 20$  ft and  $PQ = 24$  ft, what is the perimeter of  $PQRS$ ?

112 ft.

4. If  $PR = 13$  m and  $m\angle QPR = 67.4^\circ$ , what is the perimeter of  $PQRS$ ?

34 m.

Use Figure 2 for questions 5-7.

5. If  $AE = 2$  mi, what is the perimeter of  $ABCD$ ?

$8\sqrt{2} \approx 11.3$  mi.

6. If the perimeter of  $ABCD$  is 44 in, what is the length of  $\overline{AC}$ ?

$11\sqrt{2} \approx 15.6$  in.

7. What is the measure of  $\angle ABD$  if  $m\angle AED = 90^\circ$ ?

$45^\circ$ .

Use Figure 3 for questions 8-10.

8.  $ABEF$  is a rectangle attached to square  $BCDE$ . If  $AE = 29$  yd and  $AB = 21$  yd, what is the length of  $\overline{EC}$ ?

$$20\sqrt{2} \approx 28.3 \text{ yd}$$

9. If  $BC = 10$  cm, what is the measure of  $\angle BCE$ ?

$$45^\circ.$$

10. If  $DC = 10$  cm and  $AB = 15$  cm, what is the measure of  $\angle BAE$ ?

$$33.7^\circ.$$