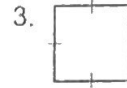
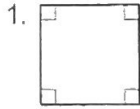


After CTLS HW

Tell whether each figure must be a rectangle, rhombus, or square based on the information given. Use the most specific name possible.



Rectangle

Square

Rhombus

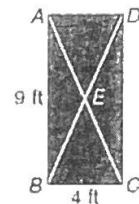
A modern artist's sculpture has rectangular faces. The face shown here is 9 feet long and 4 feet wide. Find each measure in simplest radical form. (Hint: Use the Pythagorean Theorem.)

4. $DC = \underline{9 \text{ ft}}$

5. $AD = \underline{4 \text{ ft}}$

6. $DB = \underline{\sqrt{97} \text{ ft}}$

7. $AE = \underline{\sqrt{97} \text{ ft}}$



$9^2 + 4^2 = c^2$

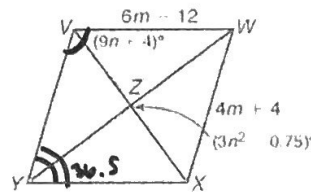
VWXY is a rhombus. Find each measure.

8. $XY = \underline{36}$

9. $m\angle YVW = \underline{101^\circ}$

10. $m\angle VYX = \underline{73^\circ}$

11. $m\angle XYZ = \underline{30.5^\circ}$



$6m - 12 = 4m + 4$
 $\frac{+12}{+12}$

$6m = 4m + 16$
 $-4m - 4m$

$2m = 16$ **$m = 8$**

12. The vertices of square JKLM are $J(-2, 4)$, $K(-3, -1)$, $L(2, -2)$, and $M(3, 3)$. Find each of the following to show that the diagonals of square JKLM are congruent perpendicular bisectors of each other.

$JL = \underline{2\sqrt{13}}$
 slope of $\overline{JL} = \underline{-\frac{3}{2}}$

$\frac{-2-4}{2+2} = \frac{-6}{4} = -\frac{3}{2}$

$KM = \underline{2\sqrt{13}}$
 slope of $\overline{KM} = \underline{\frac{2}{3}}$

$\frac{3+1}{3+3} = \frac{4}{6} = \frac{2}{3}$

midpoint of $\overline{JL} = (\underline{0}, \underline{1})$

midpoint of $\overline{KM} = (\underline{0}, \underline{1})$

$3n^2 - .75 = 90$

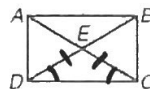
$3n^2 = 90.75$

$n^2 = 30.25$

$n = 5.5$

Write a paragraph proof.

13. Given: ABCD is a rectangle.
 Prove: $\angle EDC \cong \angle ECD$



Statement	Reason
① ABCD is a rectangle	① Given
② $\overline{ED} \cong \overline{EC}$	② Diagonals bisect & are \cong .
③ $\triangle EDC$ is isos	③ 2 \cong sides
④ $\angle EDC \cong \angle ECD$	④ Base \angle 's are \cong .

Problem Solving

Use the diagram for Exercises 1 and 2.

The soccer goalposts determine rectangle $ABCD$.

- The distance between goalposts, BC , is three times the distance from the top of the goalpost to the ground. If the perimeter of $ABCD$ is $21\frac{1}{3}$ yards, what is the length of \overline{BC} ?

8.01 yds

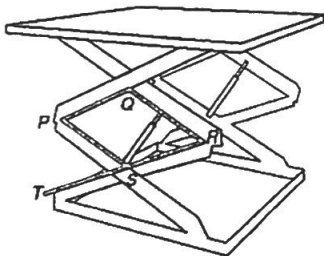
- The distance from B to D is approximately $(x + 10)$ feet, and the distance from A to C is approximately $(2x - 5.3)$ feet. What is the approximate distance from A to C ?

25.3 ft.

- $MNPQ$ is a rhombus. The measure of $\angle MRQ$ is $(13t - 1)^\circ$, and the measure of $\angle PQR$ is $(7t + 4)^\circ$. What is the measure of $\angle PQM$?

106°

- The scissor lift forms rhombus $PQRS$ with $PQ = (7b - 5)$ meters and $QR = (2b - 0.5)$ meters. If S is the midpoint of \overline{RT} , what is the length of \overline{RT} ?

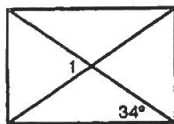


$b = 9$

2.6 m

Choose the best answer.

- What is the measure of $\angle 1$ in the rectangle?

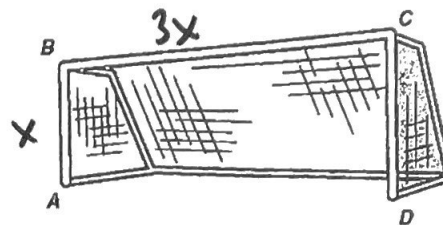


A 34°

C 90°

B 68°

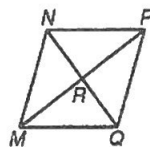
D 146°



$x + x + 3x + 3x = 21.33$

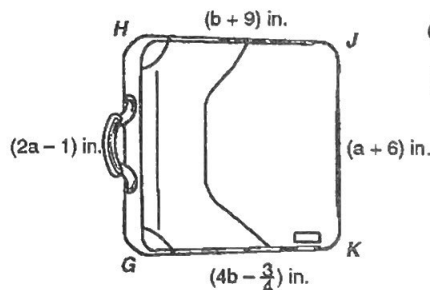
$x = 2.67$

$x = 15.3$



$t = 7$

- The diagram shows the lid of a rectangular case that holds 80 CDs. What are the dimensions of the case?



$a = 7$

$b = 3.25$

13 by 12.25

- A square graphed on the coordinate plane has a diagonal with endpoints $E(2, 3)$ and $F(0, -3)$. What are the coordinates of the endpoints of the other diagonal?

F $(4, -1)$ and $(-2, 1)$

G $(4, 0)$ and $(-2, 1)$

H $(4, -1)$ and $(-3, 1)$

J $(3, -1)$ and $(-2, 1)$