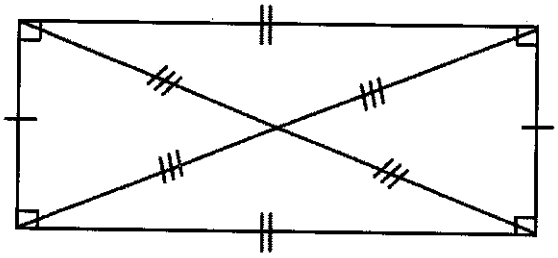
Rectangle Characteristics

Has all the properties of a Parallelogram

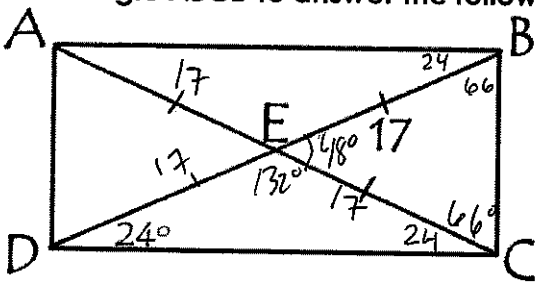
Has 4 right (90°) angles

Diagonals are congruent

isoceles triangles



Use rectangle ABCD to answer the following.



4. m<BCE 66°

5. m<BEC 48°

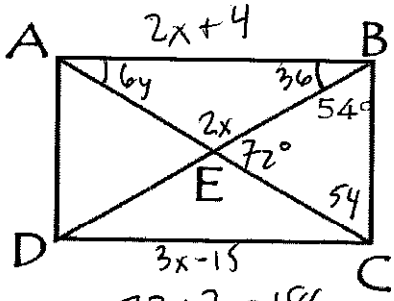
6. AC 34

7. m<ABD 24°

8. m<CED ~~48°~~ 132°

Given Rectangle ABCD, solve each problem.

9. If m<AEB = 2x, find x. 54



10. If m<BAC = 6y, find y. 6 $6y=36$, $y=6$

11. If AB = 2x + 4, CD = 3x - 15, and AD = x + 11. Find BC. $\overline{BC}=36$

AB = CD

$2x+4=3x-15$

$-4 \quad -4$

$2x=3x-19$

$-3x \quad -3x$

$-x=-19$, $x=19$, plug in

AD = BC

$x+11$

$19+11$

12. If AC = 5g and DB = g + 12, solve for g. g = 3

AC = DB

$5g=g+12$

$-g \quad -g$

$\frac{4g}{4}=\frac{12}{4}$, $g=3$

13. If DB = x + 43 and DE = 2x + 5, solve for x. x = 11

$2 \cdot DE = DB$

$2 \cdot (2x+5) = x+43$

$4x+10=x+43$

$-x \quad -x$

$3x+10=43$

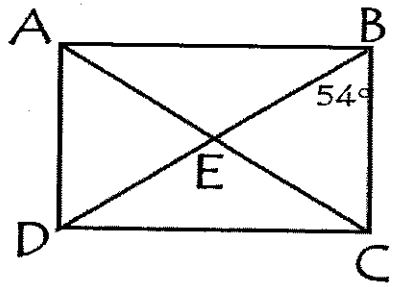
$-10 \quad -10$

$\frac{3x}{3}=\frac{33}{3}$

$72+2x=186$

$-72 \quad -72$

$\frac{2x}{2}=\frac{108}{2}$, $x=54$

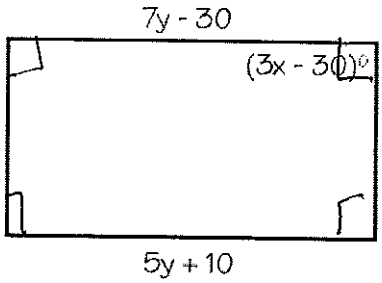


Rectangle Practice

Given the rectangles below, solve for each variable.

10. x = 26

y = 20



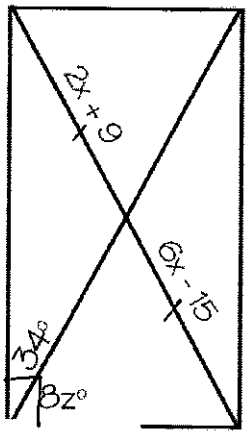
$3x+30=90$, $-30\ -30$, $\frac{3x}{3}=\frac{60}{3}$

$7y-30=5y+10$, $-5y\ \ -5y$, $2y-30=10$, $+30\ \ +30$, $\frac{2y}{2}=\frac{40}{2}$, $y=20$

11. x = 6

z = 7

$2x+9=6x-15$, $-6x\ \ -6x$, $-4x+9=-15$, $-9\ \ -9$, $\frac{-4x}{-4}=\frac{-24}{-4}$

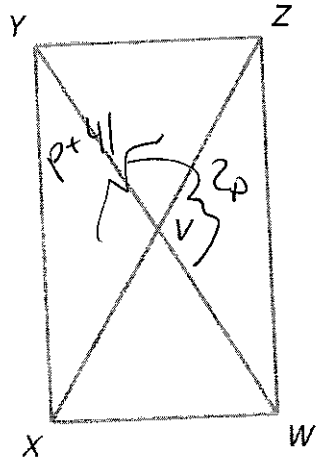


$34+8z=90$, $-34\ \ -34$, $\frac{8z}{8}=\frac{56}{8}$, $z=7$

12. **Which information is needed to show that a parallelogram is a rectangle?**

- **A.** The diagonals bisect each other.
- **B.** The diagonals are congruent.
- **C.** The diagonals are congruent and perpendicular.
- **D.** The diagonals bisect each other and are perpendicular.

Quadrilateral *WXYZ* is a rectangle, $WY = 2p$, and $XZ = p + 41$. What is the value of p?



$2p=p+41$, $-p\ \ -p$, $p=41$