

# Properties of Special IP1 KBY Textbook

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$$\begin{aligned} \textcircled{10} \quad 3n^2 - 0.75 &= 90 \\ 3n^2 &= 90.75 \\ n^2 &= 30.25 \\ n &= 5.5 \end{aligned}$$

$$m\angle WVZ = 9(5.5) + 4 = 53.5$$

$$m\angle YVW = 107$$

$$m\angle VYX = 180 - 107 = \boxed{73^\circ}$$

$$\begin{aligned} \textcircled{11} \quad m\angle XYZ &= \frac{1}{2} m\angle YZW \\ &= \frac{1}{2} (73) \\ &= \boxed{36.5} \end{aligned}$$

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$$\textcircled{6} \quad JH = 30.8$$

$$\begin{aligned} HK &= JG = 2(JH) \\ &= 2(30.8) \\ &= \boxed{61.6 \text{ m.}} \end{aligned}$$

$$\textcircled{7} \quad \angle 1 = 90 - 61 = 29$$

$$m\angle 2 = 61$$

$$m\angle 3 = 90$$

$$m\angle 4 = 29$$

$$m\angle 5 = 90$$

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$$\begin{aligned} \textcircled{9} \quad 4x + 15 &= 7x + 2 \\ 13 &= 3x \\ \frac{13}{3} &= x \end{aligned}$$

$$\begin{aligned} AB &= CD = 7x + 2 \\ &= 7\left(\frac{13}{3}\right) + 2 \\ &= \frac{91}{3} + 2 \end{aligned}$$

$$AB = \boxed{32\frac{1}{3}}$$

$$\begin{aligned} \textcircled{10} \quad 12y &= 90 \\ y &= \frac{90}{12} = 7.5 \end{aligned}$$

$$\begin{aligned} m\angle ACB &= 4y - 1 \\ &= 4(7.5) - 1 \\ &= 29 \end{aligned}$$

$$m\angle BCD = 2(29) = 58$$

$$m\angle ABC = 180 - 58 = \boxed{122^\circ}$$

$$\begin{aligned} \textcircled{11} \quad m\angle 2 &= m\angle 3 = m\angle 5 = 2 \\ m\angle 1 &= 180 - 2(27) \\ &= \boxed{126} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad m\angle 2 + m\angle 3 + 70 &= 180 \\ 2(m\angle 2) &= 110 \\ m\angle 2 &= 55 \\ m\angle 3 &= 55 \\ m\angle 4 &= 70 \\ m\angle 1 &= 55 \\ m\angle 5 &= 55 \end{aligned}$$

- 13) A. a  
B. S  
C. a  
D. S  
E. S

14)

5.  $\overline{EF} \cong \overline{GH}$   
6.  $\overline{EJ} \cong \overline{HJ}$   
7.  $\triangle FJE \cong \triangle GJH$   
8.  $\overline{FJ} \cong \overline{GJ}$   
9.  $\triangle FJE$  is isosc.

3. All rt  $\angle$ s  $\cong$ .

4. A rect. is a  $\square$

5. In a  $\square \rightarrow$  opp sides  $\cong$ .

6. Definition of a midpt.

7. SAS Thm.

8. CPCTC

9. Isos.  $\triangle$  is a  $\triangle$  w/ 2  $\cong$  sides.

15) The statement, "If a quad is a  $\square$ , then its opp sides are  $\cong$ ." is wrong. We don't know that the quad is a  $\square$ .  
Should have said, "If both pairs of opp. sides of a quad are  $\cong$ , then it is a  $\square$ ."

16)  $x + x + 3x + 3x = 64$   
 $x = 8$   
 $BC = 3(8) = \boxed{24 \text{ ft.}}$

17)  $y + 10 = 2y - 5.3$

$15.3 = y$

$AC = 2(15.3) - 5.3 = \boxed{25.3 \text{ feet}}$

18)  $7b - 5 = 2b - 0.5$

$5b = 4.5$

$b = .9$

$PQ = RS = 7(.9) - 5$   
 $= 1.3$

$RT = 2(1.3) = \boxed{2.6 \text{ m}}$

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3) Cannot be determined.  
We don't know anything about its angles or sides. Therefore, cannot conclude it's a  $\square$ . So, cannot conclude it's a rectangle.

4) Cannot be determined.  
It is a rhombus but we don't know anything about the angles.