

Sections 6.4-6.6 Review

p. 437, # 1-19 (skip 7 and 12)

① $SP = 40.25$ ($80.5/2$)

② $QT = 36$ (opp sides \cong)

③ $TR = 80.5$ (diag \cong)

④ $TP = 40.25$ ($80.5/2$)

⑤ $HJ = 3(\frac{16}{3}) + 9$ $6a - 7 = 3a + 9$
 $3a - 7 = 9$
 $3a = 16$
 $a = 16/3$
 $HJ = 16 + 9$
 $HJ = 25$

⑥ $4b - 6 = 90$ $2(24) + 11 = 59$
 $4b = 96$ $m\angle JKH = 59^\circ$
 $b = 24$

$m\angle GHJ = 118^\circ$
 $m\angle HJG = 31^\circ$

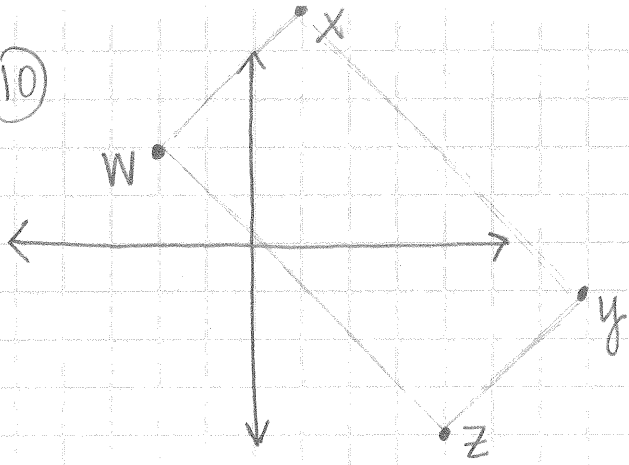
⑧ NOT VALID
must know the quad is a parallelogram
 \Rightarrow need to know diag. bisect each other

[OR opp \angle s \cong , opp sides \cong , opp sides \parallel , consec \angle s supp, one pair sides \cong and \parallel]

⑨ VALID

- parallelogram b/c one pair opp sides both \cong & \parallel .
- rectangle b/c diag are \cong .

(10)



Parallelogram \cong Rectangle

Rectangle: $\text{diag} \cong$

$$XZ = \sqrt{(1-4)^2 + (5+4)^2} = \sqrt{9+81} = \sqrt{90} = 3\sqrt{10}$$

$$WY = \sqrt{(-2-7)^2 + (2+1)^2} = \sqrt{81+9} = \sqrt{90} = 3\sqrt{10}$$

$$\therefore \overline{XZ} \cong \overline{WY}$$

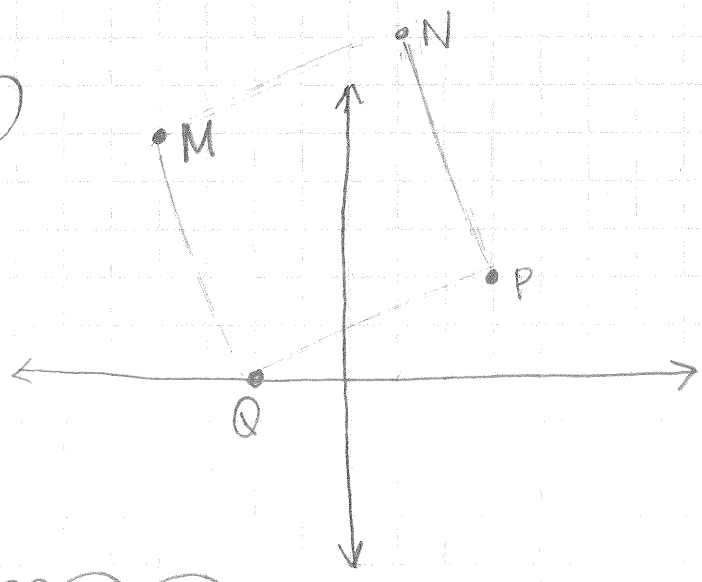
Rhombus: $\text{diag} \perp$

$$\overline{XZ}: m = \frac{5+4}{1-4} = \frac{9}{-3} = -3$$

$$\overline{XZ} \not\perp \overline{WY}$$

$$\overline{WY}: m = \frac{2+4}{-2-4} = \frac{6}{-6} = -1$$

(11)



Parallelogram, Rectangle, Rhombus, Square

Rectangle: $\text{diag} \cong$

$$MP = \sqrt{(-4-3)^2 + (5-2)^2} = \sqrt{49+9} = \sqrt{58}$$

$$NQ = \sqrt{(1+2)^2 + (7-0)^2} = \sqrt{9+49} = \sqrt{58}$$

$$\therefore \overline{MP} \cong \overline{NQ}, \text{ so it's a rect.}$$

Rhombus: $\text{diag} \perp$

$$\overline{MP}: m = \frac{5-2}{-4-3} = \frac{3}{-7}$$

$$\therefore \overline{MP} \perp \overline{NQ}, \text{ so it's a rhombus}$$

$$\overline{NQ}: m = \frac{7-0}{1+2} = \frac{7}{3}$$

\therefore SQUARE

(13) $m\angle FEJ = 31^\circ$

(14) $m\angle EHG = 59^\circ$

(15) $m\angle FGJ = 22^\circ$

(16) $m\angle EHG = 127^\circ$

(17) $m\angle R = 103^\circ (180-77)$

(18) $WZ = 19.2 (53.4 - 34.2)$

(19) $X = \frac{1}{2}(43+23)$

$X = \frac{1}{2}(66)$
 $X = 33 \text{ in}$