

- 1) midpoint (d)
- 2) line segment (h)
- 3) perpendicular (f)
- 4) supplementary angles (e)
- 5) ray (b)
- 6) point (g)

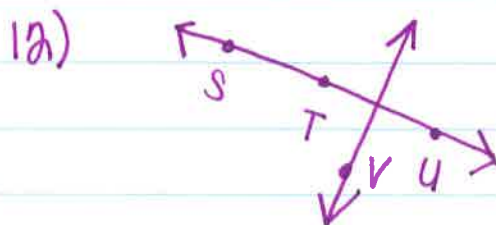
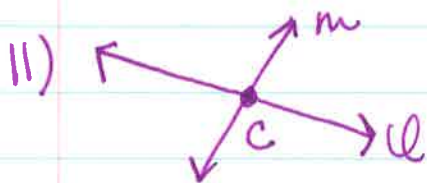
Section I-1

7) \overleftrightarrow{HJ} , \overleftrightarrow{JH} , \overleftrightarrow{IJ} , \overleftrightarrow{JI} , \overleftrightarrow{IF} , \overleftrightarrow{FI}

8) $\cdot K$, $\cdot L$

9) $\cdot F$

10) plane S or any combination of 3 points on the plane as long as they are not all collinear



Section
1-2



13) $AP = 7$ $PB = 3x$ $AB = 25$

$$7 + 3x = 25$$

$$3x = 18$$

$$x = 6$$

$$PB = 18$$

14) $AP = 4c$ $PB = 2c$ $AB = 9$

$$4c + 2c = 9$$

$$6c = 9$$

$$c = 3/2$$

$$PB = 3$$

15) $AP = s + 2$ $PB = 4s$ $AB = 8s - 7$

$$s + 2 + 4s = 8s - 7$$

$$5s + 2 = 8s - 7$$

$$9 = 3s$$

$$s = 3$$

$$PB = 12$$

16) $AP = -2k$ $PB = k + 6$ $AB = 11$

$$-2k + k + 6 = 11$$

$$-k + 6 = 11$$

$$-k = 5$$

$$k = -5$$

$$PB = 1$$

17) yes, $\overline{HI} \cong \overline{KJ}$

18) no, \overline{AB} not $\cong \overline{AC}$

19) $5x - 1 = 4x + 3$

$$5x = 4x + 4$$

if $x = 4$ then yes
they are \cong .

Section 20) A(1,0) B(-3,2)

1-3

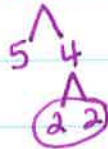
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(-3-1)^2 + (2-0)^2}$$

$$d = \sqrt{(-4)^2 + (2)^2}$$

$$d = \sqrt{16 + 4}$$

$$d = \sqrt{20} = \boxed{2\sqrt{5}} = \boxed{4.47}$$



21) G(-7,4) L(3,3)

$$d = \sqrt{(3-(-7))^2 + (3-4)^2}$$

$$d = \sqrt{(10)^2 + (-1)^2}$$

$$\sqrt{100+1} = \boxed{\sqrt{101}} = \boxed{10.05}$$

22) J(0,0) K(4,-1)

$$d = \sqrt{(0-4)^2 + (0-(-1))^2}$$

$$d = \sqrt{(-4)^2 + (1)^2}$$

$$d = \sqrt{16+1}$$

$$d = \boxed{\sqrt{17}} = \boxed{4.123}$$

23) M(-4,16) P(-6,19)

$$d = \sqrt{(-4-(-6))^2 + (16-19)^2}$$

$$d = \sqrt{(2)^2 + (-3)^2}$$

$$d = \sqrt{4+9}$$

$$d = \boxed{\sqrt{13}} = \boxed{3.61}$$

$$24) D(0,0) E(22,-18) \quad \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$
$$\frac{0+22}{2}, \frac{0-18}{2}$$
$$(11, -9)$$

$$25) U(-6,-3) V(12,-7)$$
$$\frac{-6+12}{2}, \frac{-3+(-7)}{2}$$
$$\frac{6}{2}, \frac{-10}{2}$$
$$(3, -5)$$

$$26) P(2,5) Q(-1,-1)$$
$$\frac{2+(-1)}{2}, \frac{5+(-1)}{2}$$
$$\left(\frac{1}{2}, 2 \right)$$

$$27) R(3.4, -7.3) S(-2.2, -5.4)$$
$$\frac{3.4 + (-2.2)}{2}, \frac{-7.3 + (-5.4)}{2}$$
$$\frac{1.2}{2}, \frac{-12.7}{2}$$
$$(.6, -6.35)$$

Section

1-4 28) · D

29) $\vec{FG} + \vec{FE}$

30) $\angle DEH$ or $\angle HED$

31) acute

32) obtuse

33) acute

34) acute

35) $3x = 2x + 6$

$x = 6$

$18 + 18 = 36 = m\angle yxw$

36) $12x - 10 = 8(x + 1)$

$12x - 10 = 8x + 8$

$4x = 18$

$x = 9/2$

$44 + 44 = 88 = m\angle yxz$

37) $2(7x - 9) = 9x + 17$ \curvearrowright $5x = 35$
 $14x - 18 = 9x + 17$ $x = 7$

$7(7) - 9 = 40^\circ$

Section 38) $\angle TWY$ and $\angle WYX$ (one possible example)
1-5

39) $\angle TWZ$ and $\angle XWZ$
 $\angle TWY$ and $\angle XWY$

$$40) \quad 2c + 36 = 90$$

$$2c = 126$$

$$\boxed{c = 63}$$

$$\perp = 90^\circ$$

$$2c + 36 = 90$$

$$2c = 54$$

$$\boxed{c = 27}$$

$$41) \quad 4k - 2 + 5k + 11 = 90$$

$$9k + 9 = 90$$

$$9k = 81$$

$$\boxed{k = 9}$$