

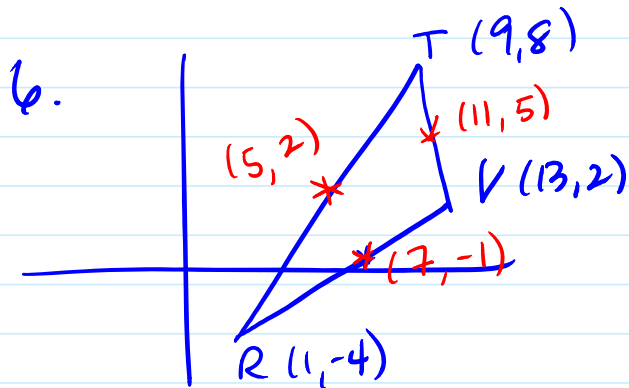
9.5

Friday, February 3, 2017 8:52 AM

$$4. \quad DO = \sqrt{6^2 + 0^2} = 6$$

$$DG = \sqrt{(6-3)^2 + (0-3\sqrt{3})^2} = \sqrt{9 + 27} = 6$$

$$OG = \sqrt{(10-3)^2 + (0-3\sqrt{3})^2} = \sqrt{9 + 27} = 6$$



a. Median from T:

$$\begin{aligned} d &= \sqrt{(9-7)^2 + (8-1)^2} \\ &= \sqrt{4 + 81} \\ &= \sqrt{85} \end{aligned}$$

b. Midpts

$$\begin{aligned} d &= \sqrt{(5-1)^2 + (2-5)^2} \\ &= \sqrt{36 + 9} \\ &= \sqrt{45} \\ &= 3\sqrt{5} \end{aligned}$$

#8 a.

|   |          |
|---|----------|
| A | (0, 2b)  |
| B | (2a, 2b) |
| C | (2a, 0)  |
| D | (0, 0)   |

b.

|   |         |
|---|---------|
| M | (0, b)  |
| P | (a, 2b) |
| N | (2a, b) |
| Q | (a, 0)  |

c.  $\frac{b}{a}, \frac{b}{a}, -\frac{b}{a}, -\frac{b}{a}$  Parallelogram!

d. lengths are  $\sqrt{b^2+a^2}$  Rhombus!

9. a.  $PQ = RS = \sqrt{c^2 - 2ac + a^2 + b^2}$

b.  $RP = QS = \sqrt{a^2 + b^2 + c^2 + 2ac}$

19. (1,2) (4,6) (10,14)

$$a. d_1 = \sqrt{\frac{(1-4)^2 + (2-6)^2}{(4-10)^2 + (6-14)^2}} = \sqrt{9+16} = 5$$

$$d_2 = \sqrt{\frac{36+64}{100}} = \sqrt{100} = 10$$

$$d_3 = \sqrt{(1-10)^2 + (2-14)^2} = \sqrt{81+144} = \sqrt{225} = 15$$

b.  $m_1 =$  ~~Multiples~~ of 5!

$$4 - 1 = \frac{4}{3} \checkmark$$

Collinear  
 $AB + BC = AC$

$$m_2 = \frac{14-6}{10-4} = \frac{8}{6} = \frac{4}{3} \checkmark$$

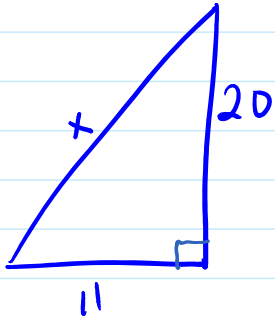
20. (1,4) (10,-3) (5,y)

$$d^2 = (1-5)^2 + (4-y)^2 = (10-5)^2 + (-3-y)^2$$

$$16 + 16 - 8y + y^2 = 25 + 9 + 6y + y^2$$

$$\begin{aligned} -2 &= 14y \\ \frac{-1}{7} &= y \end{aligned}$$

22.



$$x^2 = 11^2 + 20^2$$

$$x = 23 \text{ m}$$

$$\text{total distance} = 43 \text{ m}$$