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# Geometry EXAM REVIEW

(UNIT 2: Conditionals, Vocabulary, Segments, Angles)

Name Key hr     

Multiple Choice. Use the diagram to answer questions 1 – 8.

B 1.  $\angle EOC$  is a(n) \_\_\_\_\_ angle.

- a. acute
- b. obtuse
- c. right
- d. vertical

C 2.  $\angle 3 = \angle$  \_\_\_\_\_.

- a. 4
- b. 5
- c. 6
- d. none of the above

D 3.  $\angle BOC$  and  $\angle DOE$  are \_\_\_\_\_ angles.

- a. vertical
- b. complementary
- c. supplementary
- d. none of the above

C 4.  $\angle 5$  and  $\angle 6$  are \_\_\_\_\_ angles.

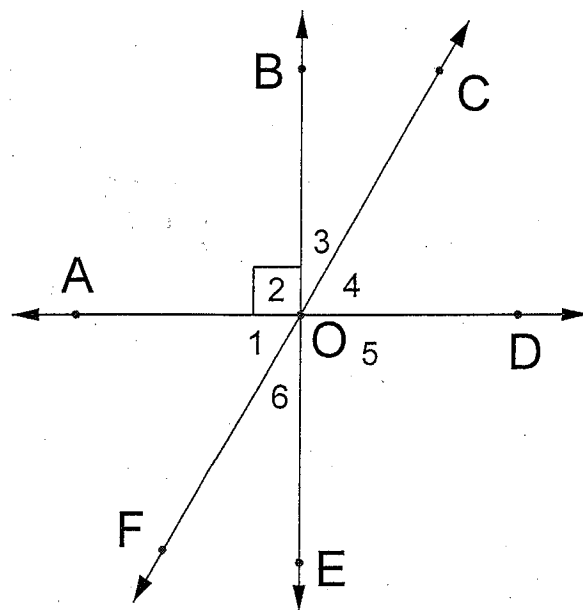
- a. vertical
- b. complementary
- c. adjacent
- d. supplementary

C 5.  $\angle 3$  and  $\angle$  \_\_\_\_\_ form a linear pair.

- a. 5
- b. 3
- c. BOF
- d. FOD

B 6.  $\angle 1$  and  $\angle 4$  are \_\_\_\_\_ angles.

- a. complementary
- b. vertical
- c. supplementary
- d. none of the above



B 7. Another name for  $\angle 2$  is  $\angle$  \_\_\_\_\_.

- a. O
- b. BOA
- c. C
- d. COD

A 8.  $\angle DOF = \angle$  \_\_\_\_\_ +  $\angle DOE$ .

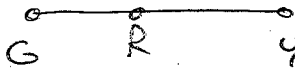
- a. EOF
- b. FOD
- c. DEO
- d. DOE

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Multiple Choice.

B 9. If R is between G and Y, then

- a.  $RG = RY + GY$
- b.  $GY = RG + RY$
- c.  $RY = RG + GY$
- d.  $RG = GY$



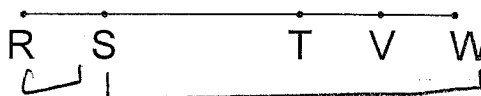
C 10. If X is the midpoint of HT and  $HX = 12$ , then  $HT =$  \_\_\_\_\_.

- a. 6
- b. 12
- c. 24
- d. cannot be determined



B 11.  $RW = RS +$  \_\_\_\_\_.

- a. TV
- b. WS
- c. VS
- d. RT



D 12. The three undefined terms in geometry are:

- a. angle, line, ray
- b. point, line, ray
- c. angle, line, plane
- d. line, point, plane

Solve.

8.9 13. Use the distance formula,  $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ , to find the distance between  $(-4, 3)$  and  $(-8, -5)$ .

$x_1, y_1 \quad x_2, y_2$

$$d = \sqrt{(-4 - (-8))^2 + (3 - (-5))^2}$$

$$= \sqrt{(4)^2 + (8)^2}$$

$$= \sqrt{16 + 64}$$

$$= \sqrt{80}$$

$$= 8.9$$

$(\frac{1}{2}, -2)$  14. Find the midpoint of  $(-1, 0)$  and  $(2, -4)$ .

$x_1, y_1 \quad x_2, y_2$

$$\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = \left( \frac{-1 + 2}{2}, \frac{0 + (-4)}{2} \right) = \left( \frac{1}{2}, -2 \right) = \left( \frac{1}{2}, -2 \right)$$

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Solve.

15.  $\angle A$  and  $\angle B$  are supplementary angles.  
If  $\angle A = 4x + 10$  and  $\angle B = x + 20$ , find  $m\angle A$ .

$$4x + 10 + x + 20 = 180$$

$$5x + 30 = 180$$

$$5x = 150$$

$$x = 30$$

$$\angle A = 4(30) + 10$$

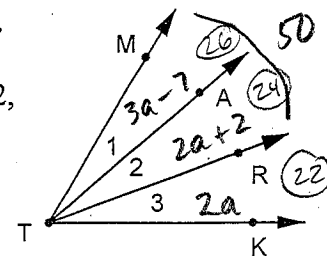
$$\angle A = 130$$

Use the diagram to solve 16.

16.  $\angle 1 = 3a - 7$ ,  $\angle 2 = 2a + 2$ ,  
 $\angle 3 = 2a$ ,  $\angle MTR = 50^\circ$

$$a = 11$$

$$m\angle MTK = 72^\circ$$



$$3a - 7 + 2a + 2 = 50$$

$$5a - 5 = 50$$

$$5a = 55$$

$$a = 11$$

Use the diagram to solve 17 - 18.

17.  $\angle 1 = 4x$   
 $\angle 3 = 2x + 30$

$$x = 15$$

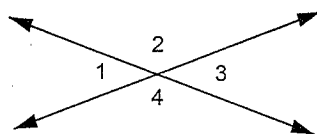
$$m\angle 1 = 60^\circ$$

$$4(15)$$

$$4x = 2x + 30$$

$$2x = 30$$

$$x = 15$$



18.  $\angle 4 = 5x + 5$   
 $\angle 3 = 2x$

$$x = 25$$

$$m\angle 2 = 130^\circ$$

$$\angle 2 = 44$$

$$5(25) + 5$$

$$130$$

$$5x + 5 + 2x = 180$$

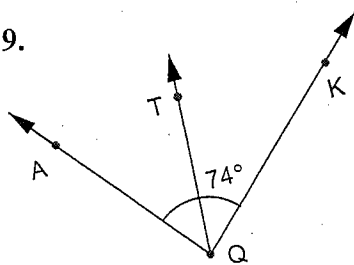
$$7x + 5 = 180$$

$$7x = 175$$

$$x = 25$$

Solve.

19.



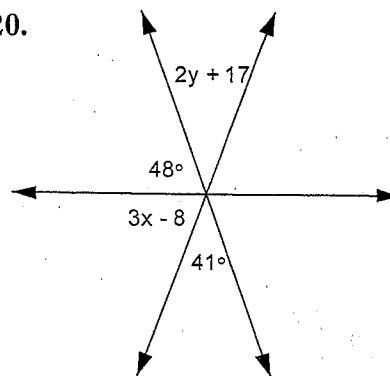
$\overline{QT}$  bisects  $\angle AOK$

$$m\angle TQK = 37^\circ$$

$$m\angle AQT = 37^\circ$$

$$\frac{74}{2}$$

20.



$$x = 33$$

$$y = 12$$

$$48 + 41 + 3x - 8 = 180$$

$$3x + 81 = 180$$

$$3x = 99$$

$$x = 33$$

$$2y + 17 = 41$$

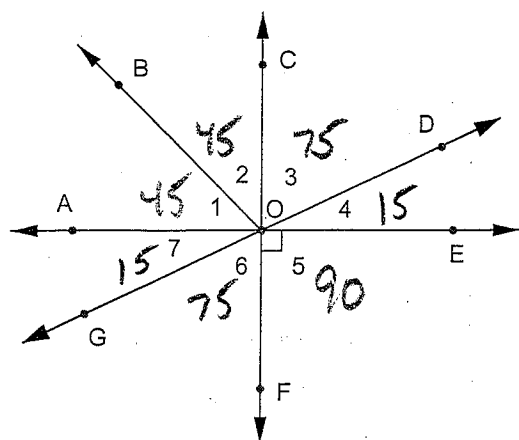
$$2y = 24$$

$$y = 12$$

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Solve.

21.



$\overline{OB}$  bisects  $\angle AOC$   
 $m\angle 4 = 15^\circ$

a)  $m\angle 1 = 45^\circ$

b)  $m\angle 7 = 15^\circ$

c)  $m\angle BOE = 135^\circ$

d)  $m\angle FOD = 105^\circ$

22. G is between A and X.

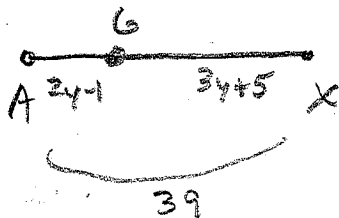
$GX = 3y + 5$ ,  $AX = 39$ ;

$AG = 2y - 1$

$y = 7$

$AG = 13$   $2(7) - 1$

$GX = 26$   $3(7) + 5$



$2y - 1 + 3y + 5 = 39$

$5y + 4 = 39$

$5y = 35$

$y = 7$