

# Geometry Chapter 1 Review

Key

Use the figure at the right for the following questions.

1. Where is the intersection of  $\overline{AB}$  and  $\overline{BC}$ ?

Point B

2. Where is the intersection of plane POR and plane BPQ?

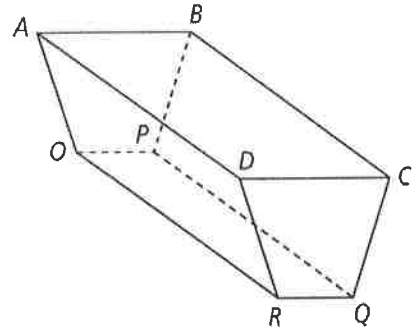
$\overleftrightarrow{PQ}$

3. Are points A, B and P coplanar?

Yes

4. Where is the intersection of plane ABQ and plane OPR?

$\overleftrightarrow{RQ}$



Use the figure at the right for the following questions.

5. What are two other ways to name  $\overleftrightarrow{PR}$ ?

$\overleftrightarrow{RP}$ , line  $l$

6. Are points P, R, Q collinear?

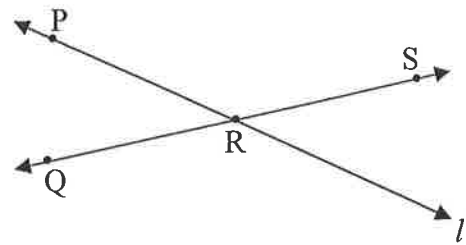
No

7. Name a pair of opposite rays.

$\overrightarrow{RQ}$  &  $\overrightarrow{RS}$

8. Where is the intersection of  $\overleftrightarrow{PR}$  and  $\overleftrightarrow{QS}$ ?

Point R



Answer the following questions based on the given information.

9. Given  $\overline{ABC}$ , if  $AB = 14$ ,  $BC = 3x - 4$  and  $AC = 4x + 4$ , find the length of AC.

$$14 + 3x - 4 = 4x + 4$$

$$AC = 4(6) + 4$$

$$3x + 10 = 4x + 4$$

$$= 28$$

$$(6 = x)$$

10. Assume H is the midpoint of  $\overline{JK}$ . If  $JH = 6x - 11$  and  $JK = 10x + 51$ , find the length of HK.

$$2(6x - 11) = 10x + 51$$

$$HK = (36.5) - 11$$

$$12x - 22 = 10x + 51$$

$$= 208$$

$$-2x = 73$$

$$(x = 36.5)$$

Answer the following questions based on the diagram on the right. Assume  $\overline{BE}$  bisects  $\angle ABD$ .

11. If  $m\angle ABE = 6x + 2$  and  $m\angle DBE = 8x - 14$ ,  
find  $m\angle ABE$ .

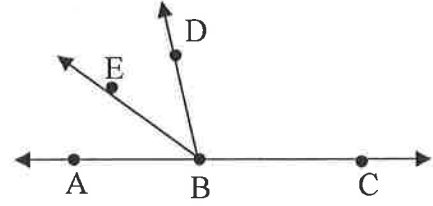
$$6x + 2 = 8x - 14$$

$$16 = 2x$$

$$\boxed{8 = x}$$

$$\angle ABE = 6(8) + 2$$

$$= \boxed{50}$$



12. If  $m\angle ABE = 12n - 8$  and  $m\angle ABD = 22n - 11$ ,  
find  $m\angle EBD$ .

$$2(12n - 8) = 22n - 11$$

$$24n - 16 = 22n - 11$$

$$2n = 5 \quad \boxed{n = \frac{5}{2}}$$

$$\angle EBD = 2\left(\frac{5}{2}\right) - 8$$

$$= \boxed{22}$$

If Y is the midpoint of  $\overline{XZ}$ , find the coordinates of the missing point and the distance of the whole line.

13. X (5, 5) and Z (-1, 5)

$$m = \left(\frac{-1+5}{2}, \frac{5+5}{2}\right) = \left(\frac{4}{2}, \frac{10}{2}\right)$$

$$= \boxed{(2, 5)}$$

$$d = \sqrt{(-1-5)^2 + (5-5)^2} = \sqrt{36}$$

$$= \sqrt{(-6)^2 + (0)^2} = \boxed{6}$$

14. X (-4, 3) and Y (-1, 5)

$$(-1, 5) = \left(\frac{-4+x_2}{2}, \frac{3+y_2}{2}\right)$$

$$-1 = \frac{-4+x_2}{2} \quad 5 = \frac{3+y_2}{2}$$

$$-2 = -4 + x_2 \quad 10 = 3 + y_2$$

$$x_2 = 2 \quad y_2 = 7$$

$$\boxed{Z = (2, 7)}$$

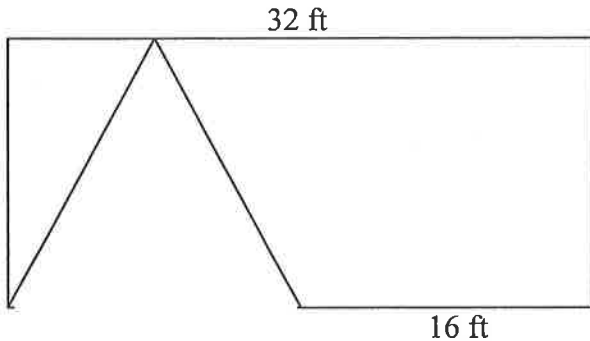
$$d = \sqrt{(2+4)^2 + (7-3)^2}$$

$$= \sqrt{6^2 + 4^2}$$

$$= \sqrt{52} \approx \boxed{7.21}$$

Find the area of the figure below.

- 15.



$$A = 32 \cdot 20 = 640$$

$$A = \frac{1}{2}(16 \cdot 20) = 160$$

$$640 - 160$$

$$= \boxed{480}$$

Use the diagram below to answer the following questions.

16.  $\angle GHE$  and  $\angle BHC$  are vertical angles. TRUE  
 17.  $\angle BCH$  and  $\angle HCF$  are supplementary angles. TRUE  
 18.  $\overline{DG} \cong \underline{\overline{BG}}$   
 19.  $\angle BHG$  and  $\angle EHG$  are adjacent angles. TRUE  
 20.  $\angle DBE$  and  $\angle DBF$  are congruent angles. FALSE

