

Refer to the diagram at the right for Exercises 1–15.

1. Name  $\overleftrightarrow{AB}$  in another way.

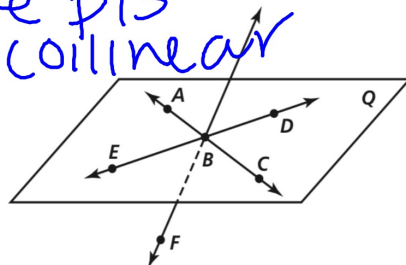
$\overleftrightarrow{BA}$

2. Give two other names for plane  $Q$ .

Plane ABD  
EAC

3. Why is  $\overleftrightarrow{EBD}$  not an acceptable name for plane  $Q$ ?

b/c these pts are collinear



Are the following sets of points collinear?

4.  $\overleftrightarrow{AB}$  and  $C$

Y

5.  $B$  and  $F$

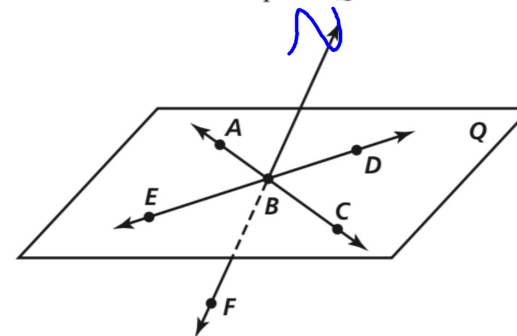
Y

6.  $\overleftrightarrow{EB}$  and  $A$

N

7.  $F$  and plane  $Q$

N



Are the following sets of points coplanar?

8.  $E$ ,  $B$ , and  $F$

N

9.  $\overleftrightarrow{DB}$  and  $\overleftrightarrow{FC}$

N

10.  $\overleftrightarrow{AC}$  and  $\overleftrightarrow{ED}$

Y

11.  $\overleftrightarrow{AE}$  and  $\overleftrightarrow{DC}$

Y

12.  $F$ ,  $A$ ,  $B$ , and  $C$

N

13.  $F$ ,  $A$ ,  $B$ , and  $D$

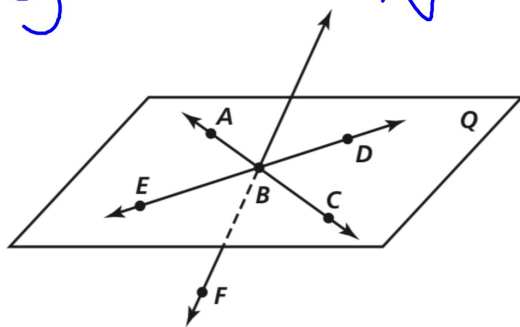
N

14. plane  $Q$  and  $\overleftrightarrow{EC}$

Y

15.  $\overleftrightarrow{FB}$  and  $\overleftrightarrow{BD}$

N



Find the intersection of the following lines and planes in the figure at the right.

16.  $\overleftrightarrow{GR}$  and  $\overleftrightarrow{LG}$

• G

17. planes  $GLM$  and  $LPN$

$\overleftrightarrow{LM}$

18. planes  $GHPN$  and  $KJP$

$\overleftrightarrow{PN}$

19. planes  $HJN$  and  $GKL$

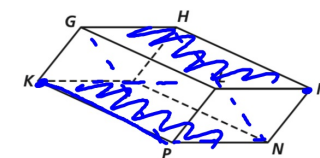
None

20.  $\overleftrightarrow{KP}$  and plane  $KJN$

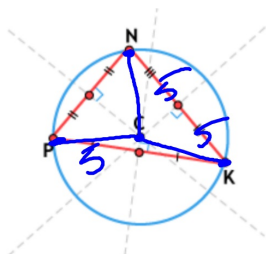
$\overleftrightarrow{KP}$

21.  $\overleftrightarrow{KM}$  and plane  $GHL$

• M



11. **REINFORCE** In the circle below, the distance  $CN$  equals  $3x - 10$  and the distance  $CK$  equals  $x^2 - 20$ . Find the distance  $CP$ .



$$CN = CK = CP$$

$$x^2 - 20 = 3x - 10$$

$$x^2 - 3x - 10 = 0$$

$$(x - 5)(x + 2) = 0$$

$$x = 5 \text{ and } x = -2$$

However,  $x = -2$  results in  $CN = -16$ , and distance cannot be negative. So,  $x \neq -2$  and  $x = 5$ .

$$CP = CN = 3(5) - 10 = 5$$