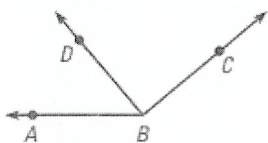


1. Are all linear pairs supplementary angles? Are all supplementary angles linear pairs? **Justify your answer with an explanation or examples.**

Yes. No.

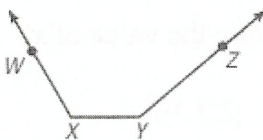
Tell whether the indicated angles are adjacent.

2. $\angle ABD$ and $\angle DBC$



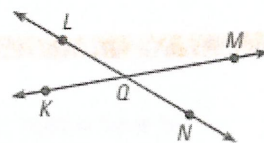
Adjacent

3. $\angle WXY$ and $\angle XYZ$



Not Adjacent

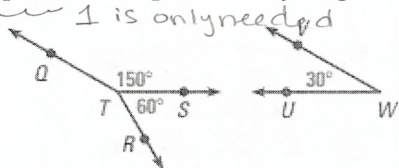
4. $\angle LQM$ and $\angle NQM$



Adjacent

Name a pair of complementary angles, a pair of supplementary angles and a pair of adjacent angles.

5.



1 is only needed

Complementary: $\angle RTS$ and $\angle VWU$

Supplementary: $\angle QTS$ and $\angle VWU$

Adjacent: $\angle RTS$ and $\angle QTS$

$\angle 1$ and $\angle 2$ are complementary angles and $\angle 2$ and $\angle 3$ are supplementary angles. Given the measure of $\angle 1$, find $m\angle 2$ and $m\angle 3$. **Show your work!**

7. $m\angle 1 = 80^\circ$

Complementary: $m\angle 2 = 10^\circ$

Supplementary: $m\angle 3 = 170^\circ$

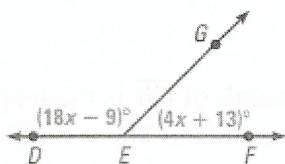
8. $m\angle 1 = 6^\circ$

Complementary: $m\angle 2 = 84^\circ$

Supplementary: $m\angle 3 = 96^\circ$

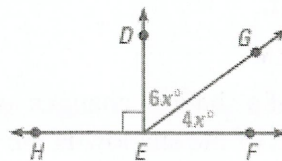
Find $m\angle DEG$ and $m\angle GEF$. **Show your work!**

9.



$m\angle DEG = 135^\circ$ $m\angle GEF = 45^\circ$

10.



$m\angle DEG = 54^\circ$ $m\angle GEF = 36^\circ$

Use the diagram below. Tell whether the angles are vertical, a linear pair or neither.

11. $\angle 1$ and $\angle 4$

Vertical

12. $\angle 1$ and $\angle 2$

Linear Pair

13. $\angle 3$ and $\angle 5$

Neither

14. $\angle 2$ and $\angle 3$

Vertical

15. $\angle 7, \angle 8$ and $\angle 9$

Neither

16. $\angle 5$ and $\angle 6$

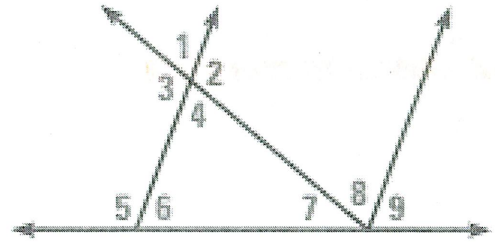
Linear Pair

17. $\angle 6$ and $\angle 7$

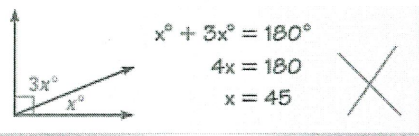
Neither

18. $\angle 4$ and $\angle 9$

Neither

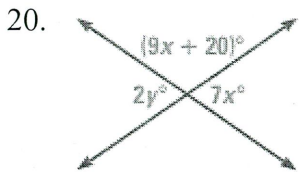


19. Describe and correct the error made in finding the value of x .

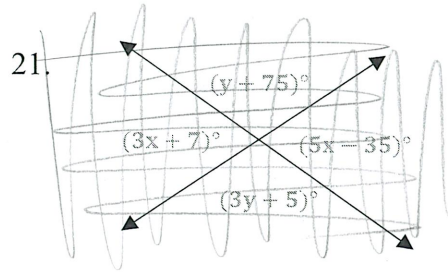


$x = 22.5^\circ$

Find the values of x and y . Show your work!



$x = 10$
 $y = 35$



Tell whether the statement is always, sometimes or never true.

22. An obtuse angles has a complement.

Never

23. A straight angle has a complement.

Never

24. An angle has a supplement.

Sometimes

25. The complement of an acute angle is an acute angle.

Always

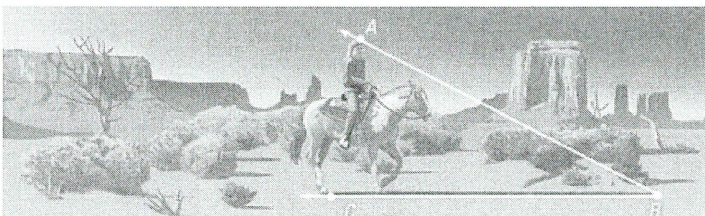
26. Two complementary angles form a linear pair.

Never

27. The supplement of an acute angles is an obtuse angle.

Always

28. The length of a shadow changes as the sun rises. In the diagram below, the length of \overline{CB} is the length of a shadow. The end of the shadow is the vertex of $\angle ABC$, which is formed by the ground and the sun's rays. Describe how the shadow and the angle changes as the sun rises.



The shadow will become shorter and the angle will get bigger.