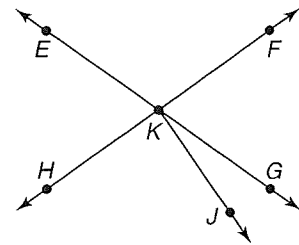


1-5 Skills Practice

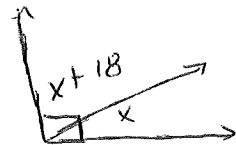
Angle Relationships

For Exercises 1-6, use the figure at the right and a protractor.



1. Name two acute vertical angles.
 $\angle EKH$ and $\angle FKG$
2. Name two obtuse vertical angles.
 $\angle EKF$ and $\angle HKG$
3. Name a linear pair.
 $\angle HKE$ and $\angle EKF$
4. Name two acute adjacent angles.
 $\angle GKJ$ and $\angle GKF$
5. Name an angle complementary to $\angle EKH$.
 $\angle GKJ$
6. Name an angle supplementary to $\angle FKG$.
 $\angle GKH$

(7)



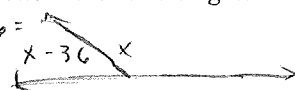
$$\begin{aligned}
 x + x + 18 &= 90^\circ \\
 2x + 18 &= 90^\circ \\
 2x &= 72^\circ \\
 x &= 36^\circ
 \end{aligned}$$

7. Find the measures of an angle and its complement if one angle measures 18 degrees more than the other.

$$\angle 1 = 36^\circ \quad \angle 2 = 54^\circ$$

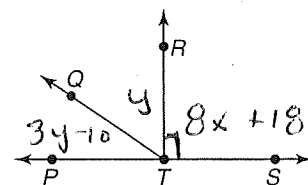
8. The measure of the supplement of an angle is 36 less than the measure of the angle. Find the measures of the angles.

$$\begin{aligned}
 \angle 1 &= 108^\circ \quad \angle 2 = 72^\circ \\
 x + x - 36 &= 180^\circ & 108^\circ - 36 &= 72^\circ \\
 2x &= 216 & & \\
 x &= 108^\circ & &
 \end{aligned}$$



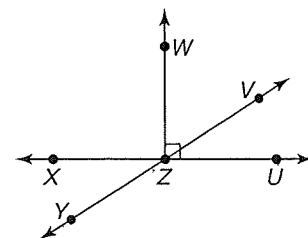
ALGEBRA For Exercises 9-10, use the figure at the right.

9. If $m\angle RTS = 8x + 18$, find x so that $\overline{TR} \perp \overline{TS}$.
 $x = 9$
10. If $m\angle PTQ = 3y - 10$ and $m\angle QTR = y$, find y so that $\angle PTR$ is a right angle.
 $y = 25$



Determine whether each statement can be assumed from the figure. Explain.

11. $\angle WZU$ is a right angle.
True (right angle box)



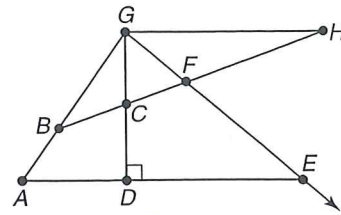
12. $\angle YZU$ and $\angle UZV$ are supplementary.
True form linear pair

13. $\angle VZU$ is adjacent to $\angle YZX$.
False
 $\angle VZU$ and $\angle YZX$ are vertical \angle 's

1-5 Practice

Angle Relationships

For Exercises 1-4, use the figure at the right and a protractor.



1. Name two obtuse vertical angles.

$\angle BCG$ and $\angle DCF$

2. Name a linear pair whose vertex is B.

$\angle GBC$ and $\angle CBA$

3. Name an angle not adjacent to but complementary to $\angle FGC$.

$\angle FED$

4. Name an angle adjacent and supplementary to $\angle DCB$.

$\angle BCG$

5. Two angles are complementary. The measure of one angle is 21 more than twice the measure of the other. Find the measures of the angles.

$x = 23$ $\angle 1 = 23^\circ$ $\angle 2 = 67^\circ$

6. If a supplement of an angle has a measure 78 less than the measure of the angle, what are the measures of the angles?

$x = 129$ $\angle 1 = 129^\circ$ $\angle 2 = 151^\circ$ $\angle 1 = x$ $\angle 2 = x - 78$

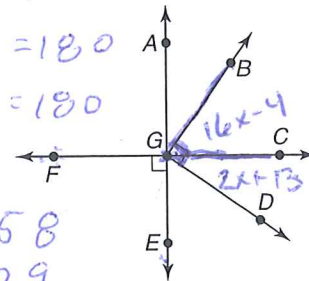
ALGEBRA For Exercises 7-8, use the figure at the right.

7. If $m\angle FGE = 5x + 10$, find x so that $\overline{FC} \perp \overline{AE}$.

$5x + 10 = 90$ $5x = 80$ $x = 16$

8. If $m\angle BGC = 16x - 4$ and $m\angle CGD = 2x + 13$, find x so that $\angle BGD$ is a right angle.

4.5



$x + x - 78 = 180$

$2x - 78 = 180$

$2x = 258$

$x = 129$

⑤ $\angle 1 + \angle 2 = 90^\circ$
 $\angle 1 = x$ $\angle 2 = 2x + 21$
 $x + 2x + 21 = 90^\circ$
 $3x + 21 = 90$
 $3x = 69$
 $x = 23$
 $2(23) + 21$
 $46 + 21$
 67

Determine whether each statement can be assumed from the figure. Explain.

9. $\angle NQO$ and $\angle OQP$ are complementary.

No $m\angle NQP$ is not known

10. $\angle SRQ$ and $\angle QRP$ is a linear pair.

Yes they are adjacent angles whose non common sides are opposite rays

11. $\angle MQN$ and $\angle MQR$ are vertical angles.

No, adjacent angles

12. **STREET MAPS** Darren sketched a map of the cross streets nearest to his home for his friend Miguel. Describe two different angle relationships between the streets.

Main \perp Beacon

\angle Beacon Olive + \angle Olive and Main complementary

