

Angle Pairs

Geometry · Grade 7

◆ Medium · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. Three angles around a point are 130° , 95° , and ____°.

Answer: _____

2. Two straight lines cross.
One angle is 48° . Find all four angles.

Answer: _____

3. Angles on a straight line are: $2x$, $3x$, and x .
Find x and all three angles.

Answer: _____

4. Two complementary angles are in ratio 2:3.
Find each angle.

Answer: _____

5. An angle and its supplement are in ratio 1:4.
Find both angles.

Answer: _____

6. Four angles around a point are equal.

What is each angle?

Answer: _____

7. Angle $p = 65^\circ$. Its supplement is angle q . Find q .

Answer: _____

8. Two angles around a point are 145° and 90° . Find the third angle.

Answer: _____

9. Angle x is the complement of 27° . Find x .

Answer: _____

10. Two vertically opposite angles are $(3x + 10)^\circ$ and 70° . Find x .

Answer: _____

Answer Key

Angle Pairs — Medium

1. **135°**

Angles around a point = 360° . $360^\circ - 130^\circ - 95^\circ = 135^\circ$.

2. **48°, 132°, 48°, 132°**

Vertical angles are equal. Adjacent angles are supplementary. So: 48° , $180^\circ - 48^\circ = 132^\circ$, 48° , 132° .

3. **$x=30^\circ$. Angles: 60°, 90°, 30°.**

$2x+3x+x=6x=180^\circ$. $x=30^\circ$. Angles: 60° , 90° , 30° .

4. **36° and 54°**

$2k+3k=5k=90^\circ$. $k=18^\circ$. Angles: 36° and 54° .

5. **36° and 144°**

$k+4k=5k=180^\circ$. $k=36^\circ$. Other = 144° .

6. **90°**

$360^\circ \div 4 = 90^\circ$. Each angle is a right angle.

7. **115°**

$p + q = 180^\circ$. $q = 180^\circ - 65^\circ = 115^\circ$.

8. **125°**

$360^\circ - 145^\circ - 90^\circ = 125^\circ$.

9. **63°**

Complement: $90^\circ - 27^\circ = 63^\circ$.

10. **$x = 20$**

Vertical angles equal: $3x+10=70$. $3x=60$. $x=20$.