

Angles on a Straight Line: Problem Solving

1. In the diagram below, angle x and angle 70° are on a straight line. Find the value of x .
[DRAW: A straight line with two adjacent angles, one labelled x and the other 70°]
2. Two angles on a straight line are x and 115° . Calculate x .
[DRAW: A straight line with two adjacent angles, one labelled x and the other 115°]
3. On a straight line, angle a is twice as large as angle b . Find the values of a and b .
[DRAW: A straight line with two adjacent angles, one labelled a and the other labelled b , with a marked as twice the size of b]
4. In the diagram, three angles on a straight line are x , $2x$, and $3x$. Find the value of x .
5. Angles y and z are on a straight line. If $y = 4z$, determine the values of y and z .
[DRAW: A straight line with two adjacent angles, one labelled y and the other labelled z , with y marked as four times the size of z]
6. In the diagram below, angles p and q are on a straight line. If $p = 3q - 24$, find p and q .
[DRAW: A straight line with two adjacent angles, one labelled p and the other labelled q , with p marked as $3q$ minus 24]
7. Two adjacent angles on a straight line are $x + 10^\circ$ and $2x - 20^\circ$. **Find x .**
8. In a diagram, the angles on a straight line are x , y , and z . If $x = y = z$, what is the value of each angle?
9. Angles a and b are on a straight line. If $a = b + 30^\circ$, work out the value of a and b .
10. On a straight line, one angle is x and the other is $4x$. Find the measure of each angle.

Maths with Melissa

Answer Key

1. $x = 110^\circ$
2. $x = 65^\circ$
3. $a = 120^\circ, b = 60^\circ$
4. $x = 30^\circ$
5. $y = 144^\circ, z = 36^\circ$
6. $q = 51^\circ, p = 129^\circ$
7. $x = 63.3^\circ$ (rounded to 1 decimal place)
8. $x = y = z = 60^\circ$
9. $a = 105^\circ, b = 75^\circ$
10. $x = 36^\circ, 4x = 144^\circ$