

Perimeter Of Compound Shapes With Missing Lengths

1. A compound shape is made up of a rectangle and a triangle, as shown below: `[asy] unitsize(1cm); defaultpen(linewidth(0.8pt)); pair A=(0,0), B=(5,0), C=(5,5), D=(0,5), E=(5,5), F=(5,7), G=(0,7); draw(A--B--C--D--cycle); draw(E--F--G--cycle); label("x",(A+D)/2,W); label("y",(E+F)/2,N); label("5",(B+C)/2,S); label("3",(F+G)/2,N); [/asy]` The perimeter of this compound shape is 16. What is the value of x ?
2. A compound shape is made up of a square and a triangle, as shown below: `[asy] unitsize(1cm); defaultpen(linewidth(0.8pt)); pair A=(0,0), B=(5,0), C=(5,5), D=(0,5), E=(5,5), F=(5,7), G=(0,7); draw(A--B--C--D--cycle); draw(E--F--G--cycle); label("x",(A+D)/2,W); label("y",(E+F)/2,N); label("5",(B+C)/2,S); label("3",(F+G)/2,N); [/asy]` The perimeter of this compound shape is 18. What is the value of y ?

Answer

1. To solve the first question, we can set up the following equation: $5 + 5 + 3 + y = 16$. We know that $y = 5$, so we can substitute this value into the equation to find x : $5 + 5 + 3 + 5 = 16$. Solving this equation, we find that $x = 3$. Therefore, the value of x is 3.
2. To solve the second question, we can set up the following equation: $5 + 5 + x + 3 = 18$. We know that $x = 5$, so we can substitute this value into the equation to find y : $5 + 5 + 5 + 3 = 18$. Solving this equation, we find that $y = 5$. Therefore, the value of y is 5.