**Construct Expressions, Formula and Equations**

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| Name : | Class : | Date : |

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| **1)** Write an algebraic expression for the sentence below (use the letter ***n*** to represent the missing number):       *Double a number* | [1]   |
| **2)** I start a game with  $b$ marbles and lose  $c$ marbles. Write down a formula for the number,  $S$, of marbles that I finish with.       | [1]   |
| **3)** Using the letter ***n***, write an equation to represent the following:       *I'm thinking of a number. I double it then add 4 and get an answer of 16.* | [1]   |
| **4)** a) Using the letter ***n*** to represent the missing number, write an equation for the following:      *I'm thinking of a number. I double it then add 5 and get an answer of 17.*b) Solve your equation to find the missing number | [1]   |
| **5)** Find, in its simplest form, the **perimeter** of the shape given below in terms of  $z$.      http://www.mathster.com/course/simgs/16147733899_1.png | [1]   |
| **6)** Write down a fully simplified formula for the perimeter,  $P$, of the isosceles triangle given below      http://www.mathster.com/course/simgs/16147733899_2.png | [1]   |
| **7)** Write down a fully simplified formula for the perimeter,  $P$, of the isosceles triangle given below      http://www.mathster.com/course/simgs/16147733899_3.png | [1]   |
| **8)** Write a formula using the letters and numbers given below      a)  Triple a number  $c$ and add 8     b)  A number  $P$ is equal to the sum of a number  $b$ and the square of  $c$. | [2]   |
| **9)** I buy  $d$ kg of oranges and  $e$ kg of pineapples. Write down a formula for  $P$ if  $P$ kg is the weight of the fruit that I bought       | [1]   |
| **10)** Jon has two trees in his garden. One is 4 metres taller than the other. If we let  $h$ be the height of the shorter tree, write an algebraic expression for the sum of the two trees' heights.       | [1]   |
| **11)** Write down a formula for the perimeter,  $P$, of the rectangle given below      http://www.mathster.com/course/simgs/16147733899_4.png | [1]   |

**Solutions for the assessment Construct Expressions, Formula and Equations**

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| **1)** 2 $n$ | **2)**  $S=$ $b-c$ |
| **3)**  $2n+4=16$ | **4)** a)  $2n+5=17$, b)  $n$=6 |
| **5)**  $P$ = (42z + 34)  $m$ | **6)**  $P$ = (14s + 5t)  mm |
| **7)**  $P$ = (7x + 17)  $m$ |  |
| **8)**  a)  $3c+8$ |      b)  $P$ =  $b+c^{2}$ |
| **9)**  $P=$ $d+e$ | **10)**  $2h+4$ |
| **11)**  $P$ = (2s + 2t)  cm |  |