Worksheet

Writing algebraic expressions

1 Write an expression for each of the following using n to represent the number.

a 3 times a number

b a quarter of a number

c 10 more than a number

d 5 less than a number

e the square of a number

f the square root of a number

g the sum of a number and 12

2 Write an expression for each of the following using a and b to represent two numbers.

a the sum of two numbers

b the product of two numbers

c 20 more than the sum of two numbers

d 3 less than the sum of two numbers

e a divided by b

3 Write an expression for:

a the sum of twice a and 5

b x increased by 13

c 6 less than a

d twice the sum of a and 7

e 7 more than twice a

f the sum of the square root of x and 9

4 Write an expression for:

a the number of people in a group if there are b boys and g girls

b the number of sausages eaten at a sausage sizzle if there are n customers and each customer eats three sausages

c the amount of money raised by a cake stall if n cakes are sold for \$4 each

d the cost per kilogram if n kg costs a total of \$35

e the cost of feeding a family if they eat x pizzas and y serves of pasta at a cost of \$15 for each pizza and \$18 for each serve of pasta

5 Miff, Addie and Molly purchase muffins from the local cake shop. They each have their own favourite type. Miff purchases x chocolate muffins, Addie purchases y strawberry muffins and Molly purchases z banana muffins.

a Write an expression for the total number of muffins purchased.

b Write an expression for the total cost if chocolate muffins cost \$3 each, strawberry muffins cost \$3.50 each and banana muffins cost \$4 each.

c The cake shop offers a special of \$3.25 per muffin for a mixed bag. Write an expression for the total cost if the muffins are mixed.

Answers

1 **a** $3n$ **b** $\frac{n}{4}$ **c** $n + 10$ **d** $n - 5$ **e** n^2 **f** $\sqrt{n}$ **g** $n + 12$

2 **a** $a + b$ **b** ab **c** $a + b + 20$ **d** $a + b - 3$ **e** $\frac{a}{b}$

3 **a** $2a + 5$ **b** $x + 13$ **c** $a - 6$ **d** $2(a + 7)$ **e** $2a + 7$ **f** $\sqrt{x} + 9$

4 **a** $b + g$ **b** $3n$ **c** $4n$ **d** $\frac{35}{n}$ **e** $15x + 18y$

5 **a** $x + y + z$ **b** $3x + 3.5y + 4z$ **c** $3.25(x + y + z)$