

- 1** Translate the phrase '9 more than 6 times a number' into an algebraic expression. (Use any variable that you like to stand for the number.)

Let x be the number. Then 6 times that number is $6x$, and 9 more than that is

$$6x + 9.$$

- 2** A biology class begins with 36 students. However, only $2/3$ of those students finish the course. Of the students that finish the course, only $3/4$ of them pass.

a How many students finish the course?

Since $2/3$ of 36 students finish, the number who finish is

$$\frac{2}{3} \cdot 36 = 24.$$

b How many students pass the course?

Since $3/4$ of 24 students pass, the number who pass is

$$\frac{3}{4} \cdot 24 = 18.$$

- 3** Let x stand for the smallest of three consecutive integers. Write an expression for the product of these three integers, then simplify that expression as a polynomial. (Write down the expression both before and after simplifying.)

Since x is the first integer, $x + 1$ is the next, and $x + 2$ is the last. Their product is

$$x(x + 1)(x + 2) = x^3 + 3x^2 + 2x.$$