Self-test

Do this self-test *without* a calculator.
If you have trouble answering the questions, refresh your math skills with the course 'Basic Maths A/C' before entering 'Math A' or 'Math C'.

Exercise 1
Calculate.

a. $2 + 3 \cdot 5 =$

b. $3 \cdot -2 + 4 =$

c. $5^2 - 7 \cdot -3 =$

d. $8 - (-2)^5 =$

Exercise 2
Calculate and simplify your answer.

a. $\frac{1}{5} + \frac{3}{4} =$

b. $\frac{1}{6} - \frac{5}{12} + \frac{2}{3} =$

c. $2\frac{3}{4} - 1\frac{1}{3} =$

d. $-\frac{1}{3} \cdot 6 =$

e. $\frac{4}{5} \cdot \frac{5}{8} =$

f. $\frac{1\frac{1}{2}}{\frac{3}{4}} =$

Exercise 3
Calculate.

a. $\sqrt{\frac{1}{4}} =$

c. $\sqrt[3]{-\frac{1}{27}} =$

Exercise 4

a. Draw a Cartesian (xy-) plane with x and y from -5 up to and including 5.

b. Draw the points $P(1, -2)$ and $Q(3, 4)$ in this plane.

Line l passes through the points P and Q.

c. Draw line l and determine an equation for l of the form $y = ax + b$.

Exercise 5
Solve for x.

a. $4x - 7 = 9$

b. $\frac{1}{2}x + 1 = 6$

c. $5x = x + 12$

d. $\frac{1}{3}x - 2 = \frac{1}{4}$

Exercise 6
Simplify. Expand the brackets if necessary.

a. $2x - 6 + 3x + 5$

b. $6a(a - 5) - a^2$

c. $(b - 2)(b + 3)$

d. $(2a + b)^2$

Exercise 7

Given is the formula $y = x^2 - 2x - 3$.

a. Calculate y when $x = 5$.

b. Calculate y when $x = -2$ and when $x = \frac{1}{2}$.

c. Determine for which values of x the y-value equals -3.

Exercise 8

Simplify the following expressions. Write your answer without negative or fractional exponents.

a. $\dfrac{(2ab)^3}{2a^3}$

b. $\dfrac{a^3b^2}{3a^{-2}}$

c. $(4x)^2 \cdot x^5$

d. $\sqrt[3]{y^2} \cdot \frac{1}{y}$