

*Order of operations I*

Remember the rules for the order of operations.

First, do all the operations in brackets. Next exponents.

Then, do any multiplication and division as they occur, left to right.

Last, do any addition and subtraction as these occur, left to right.

1. Find the value of each of the following. Show your work.

a)  $8 + (1 - 8)$  \_\_\_\_\_ b)  $3^3 \div 3^2 - 1 - 2 - 3$  \_\_\_\_\_

c)  $4^2 \times 7 - 6^2 + 1 + 8^2$  \_\_\_\_\_ d)  $(-7)^2 + (6 \div 3)$  \_\_\_\_\_

e)  $8 \div (2 \times 2)^2$  \_\_\_\_\_ f)  $8 \div 2 \times 2^2$  \_\_\_\_\_

g)  $2^3(9^3 - 7^3)$  \_\_\_\_\_ h)  $2^3 - (8 + 6)$  \_\_\_\_\_

i)  $10 \times 3^2 + 5$  \_\_\_\_\_ j)  $5^2 - 12 \div 3 \times 2^2$  \_\_\_\_\_

k)  $4^2 - 5(4 - 3)^2$  \_\_\_\_\_ l)  $(2^4 - 5 \times 2) \div 3$  \_\_\_\_\_

m)  $(3^2 - 2)^2$  \_\_\_\_\_ n)  $34 + 6 \times (4^2 \div 2)$  \_\_\_\_\_

o)  $3^4 - (9 \times (-4)) \div 2$  \_\_\_\_\_ p)  $7^2(9^2 \div 3)$  \_\_\_\_\_

q)  $1 - 5^3 + 6^2 + 8 \times 1^3$  \_\_\_\_\_ r)  $4(17 - 4)^0 \times (3 + 6)^0$  \_\_\_\_\_

s)  $9 \times (2^3 \div 4 - 3)$  \_\_\_\_\_ t)  $2 \times (3^2 + 5) - 4^2$  \_\_\_\_\_

u)  $(14 - 8)^2 - (2^2 + 18 \div 6)^2$  \_\_\_\_\_ v)  $54 \div 6 + (-2)^4$  \_\_\_\_\_

w)  $4^3 - (3^2 - 4 \times 5)$  \_\_\_\_\_ x)  $(3 + 2^2) + 4^0 - 5 \times 2$  \_\_\_\_\_

y)  $10 \times (13 \times 3^2 + 8^2) \div 5$  \_\_\_\_\_ z)  $(12 + 52 - 6^2) \div (14 - 6)$  \_\_\_\_\_

2. Evaluate. Show your work.

a)  $\frac{(6-4)^3 \times 3}{2(8-5)}$

b)  $\frac{3^2 \times 10}{8-3}$

c)  $\frac{(2^3 + 2)(7-3)}{4^2 \div (6-4)}$

d)  $\frac{2^2 \times 5 - (2-3^2)}{2^2 \times 3 - (5+4)}$

e)  $\frac{5(6+2)^2 + 2^2(7-2)}{5(9-11)}$

f)  $\frac{12 \div 3 + 8 \times 2 + 6 \times 2}{5 + 3 \times 4 - 9}$

g)  $\frac{2^2(8-5) + 2 \times 3 \times (-2)^2}{2^4 - 7}$

h)  $\frac{(6-4)(8+5) + 4^2 - 6}{(7 \times 2)(2^3 - 6) - 10}$

i)  $\frac{3 + 8(2+5) \times 2^2 - 6}{18 - 4(6-3) + 2 + 3^2}$

j)  $\frac{(8+7) + (6 \times 2)(3 \times 2^2) - 3^2}{(6-3)(9+2) + 2^5 + 3 \times 5}$