

Integers – Lesson 6

We have now covered all four operations: addition, subtraction, multiplication and division. After some revision and consolidation, we will move on to examples where there are multiple operations to be carried out. This means we will have to recall what order to do the operations in.

Now try these examples: -

1) $-10 + 2$

2) $-10 - 2$

3) -10×2

4) $-10 \div 2$

5) $10 + -2$

6) $10 - -2$

7) 10×-2

8) $10 \div -2$

9) $-10 + -2$

10) $-10 - -2$

11) -10×-2

12) $-10 \div -2$

13) $0 + -2$

14) $0 - -2$

15) 0×-2

16) $0 \div -2$

17) $(-10)^2$

18) -2^2

19) -10^3

20) $(-2)^3$

First a reminder about the order of operations: -

- Brackets first
- Then indices (powers)
- Then division and multiplication
- Then addition and subtraction

Have a look at these examples: -

a) $-3 \times 5 - -6 \times 4$ **Multiplication first....**
 $= -15 - -24$ **...then subtraction**
 $= -15 + 24$
 $= 9$

b) $(-2 + -3)^2 + (2 + -5)^3$ **Brackets first....**
 $= (-2 - 3)^2 + (2 - 5)^3$ **Brackets...**
 $= (-5)^2 + (-3)^3$ **...then indices (powers)**
 $= 25 + -27$ **...then addition**
 $= 25 - 27$
 $= -2$

Now try these examples: -

21) $2 \times -3 + 4 \times -5$

22) $2 + -3 \times 4 + -5$

23) $2 \times (-3 + 4) \times -5$

24) $(2 + -3) \times (4 + -5)$

25) $(2 + -3 + 4) \times -5$

26) $2 + -3 + 4 \times -5$

27) $(2 + -3 + 4)^2$

28) $(2 + -3)^2 + 4$

29) $2^2 + (-3)^2 + 4^2$

30) Finally, let us practice plotting coordinates again. Draw axes from -5 to 5 and plot the following points, joining them up with straight lines as you plot them.

$(2, 0)$ $(3, -1)$ $(0, -4)$ $(-5, 1)$ $(-2, 4)$ $(-1, 3)$ $(-3, 1)$ $(0, -2)$ and back to $(2, 0)$