

POSITIVE AND NEGATIVE NUMBERS

MNU 4-03a

Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts.

MTH 4-18a

I can plot and describe the position of a point on a 4-quadrant coordinate grid.

Pupils should be able to:

- Locate positive and negative numbers on a number line - horizontal and vertical
- Understand and use the idea of order among integers, using $>$ and $<$
- Add and subtract positive and negative numbers
- Multiply and divide positive and negative numbers
- Plot and work with coordinates in all quadrants
- Do calculations with negative numbers in a variety of contexts.
- Evaluate expressions involving negative numbers eg $3ab$ when $a = 4$, $b = -2$ or $4a - 5b$
- Simplify expressions eg $3a + 5b - 4a$

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
Ordering and inequalities (QUESTIONS 1 - 2)			
Add/sub/ mult/divide (QUESTIONS 3 - 4)			
Coordinates (QUESTIONS 5- 6)			
Substitution and expressions (QUESTIONS 7 - 10)			

mymaths lessons: [library/number/counting and place value/negative numbers 1 & 2](#)
[library/algebra/inequalities/inequations](#)
[library/algebra/coordinates 1 & 2](#)
[library/algebra/expressions&formulae/substitution1](#)
[library/algebra/algebraic manipulation/simplifying 1](#)

SELF EVALUATION EXERCISE

DATE DUE _____

1. Place these numbers 3, -3, 6, -1, in the correct spaces below

-5 , -4 , , -2 , , 0 , 1 , 2 , , 4 , 5 ,

2. Integer statements. True or False? a) $3 > 2$ b) $4 < 6$ c) $2 < -4$

3. Calculate a) $-3 + 5 =$ b) $-2 - 1 =$ c) $10 + (-4) =$ d) $6 - (-7) =$

4. Calculate a) $-2 \times 5 =$ b) $-3 \times (-1) =$ c) $9 \times (-4) =$
d) $6 \div (-3) =$ e) $-20 \div (-5) =$ f) $-40 \div 8 =$

5. (a) On a coordinate diagram plot the points T(4,2) , U(7,3) and V(6,6).

(b) Given that TUVW is a square, complete the diagram and write down the coordinates of the point W.

6 (a) Plot on a coordinate diagram the points A(2,5) , B(-3,5) and C(-3,-2).

(b) Given that ABCD is a rectangle, complete the shape and write down the coordinates of D.

7. When $a = 5$, $b = -4$ evaluate a) $2ab$ b) $3a - 2ab$ c) $4a - \frac{1}{2}b$ d) b^2

8. A formula is given as $F = 5a + 4$

(a) Find the value of F when i) $a = 3$ ii) $a = -7$ iii) $a = \frac{1}{2}$.

(b) What value of a would make F equal to 54 ?

9. A formula is defined as $E = 3f + g$

Find the value of E when

(a) $f = 4$ and $g = 6$. (b) $f = 6$ and $g = 1$.

(c) $f = 2$ and $g = -5$. (d) $f = -3$ and $g = -4$.

10. Simplify a) $2a + 5b - 3a$ b) $3x + 2y - x$ c) $-2ab + 3ba - ab$