

DIRECTED NUMBERS

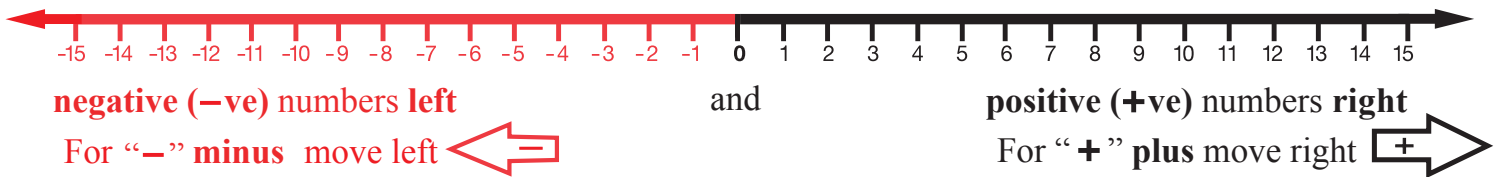
Integers are **positive** and **negative** whole numbers including zero.



Positive (+ve) numbers **do not** need a “+” sign For example, 1, 2, 3,... same as +1, +2, +3,...

Negative (-ve) numbers **must** have a “-” sign For example, -1, -2, -3,...

Look at the number line on the front of the **M.A.D. MATHS** ruler and find the zero “0”.



Questions:

Ex. 1

$$7 - 10 = -3$$

start at this number move left 10 spaces answer

- | | | |
|------------------|-----------------|-----------------|
| 1. (a) $2 - 7 =$ | (d) $4 - 5 =$ | (g) $9 - 14 =$ |
| (b) $3 - 5 =$ | (e) $12 - 15 =$ | (h) $10 - 12 =$ |
| (c) $5 - 9 =$ | (f) $8 - 12 =$ | (i) $11 - 20 =$ |

Ex. 2

$$-8 + 3 = -5$$

start at this number move right 3 spaces answer

- | | | |
|-------------------|-----------------|-----------------|
| 2. (a) $-7 + 1 =$ | (d) $-5 + 2 =$ | (g) $-13 + 4 =$ |
| (b) $-9 + 5 =$ | (e) $-12 + 5 =$ | (h) $-10 + 5 =$ |
| (c) $-4 + 1 =$ | (f) $-8 + 4 =$ | (i) $-11 + 9 =$ |

Ex. 3

$$-5 + 9 = 4$$

start at this number move right 9 spaces answer

- | | | |
|-------------------|-----------------|------------------|
| 3. (a) $-1 + 3 =$ | (d) $-5 + 8 =$ | (g) $-7 + 9 =$ |
| (b) $-4 + 5 =$ | (e) $-6 + 10 =$ | (h) $-10 + 10 =$ |
| (c) $-2 + 6 =$ | (f) $-9 + 12 =$ | (i) $-5 + 10 =$ |

Ex. 4

$$15 - 39 = -24$$

15 - 15 = 0
So 15 - 39 makes the answer **negative**

answer is the difference between 15 and 39

- | | |
|--------------------|-----------------|
| 4. (a) $15 - 20 =$ | (d) $41 - 50 =$ |
| (b) $12 - 34 =$ | (e) $30 - 70 =$ |
| (c) $25 - 30 =$ | (f) $19 - 58 =$ |

Ex. 5

$$-2 - 1 - 4 = -7$$

same signs SO answer is same sign
then add digits 2, 1 and 4

answer

- | | |
|-----------------------|-----------------------|
| 5. (a) $-1 - 2 - 3 =$ | (d) $-8 - 12 - 5 =$ |
| (b) $-5 - 1 - 2 =$ | (e) $-10 - 20 - 2 =$ |
| (c) $-4 - 3 - 7 =$ | (f) $-36 - 50 - 24 =$ |

Ex. 6

$$-7 + 3 + 1 = -3$$

same as $-7 + 4 = -3$

together

answer

- | | |
|-----------------------|--------------------|
| 6. (a) $-5 + 1 + 2 =$ | (d) $4 - 12 + 3 =$ |
| (b) $-10 + 2 + 3 =$ | (e) $2 + 7 - 15 =$ |
| (c) $-9 + 3 + 5 =$ | (f) $9 + 5 - 17 =$ |

Ex. 7

$$-4 + 5 - 3 =$$

move

$$+5 - 3 - 4 =$$

together

$$+5 - 7 = -2$$

answer

- | | |
|-----------------------|----------------------|
| 7. (a) $-2 + 4 - 3 =$ | (d) $-7 + 9 - 5 =$ |
| (b) $-1 + 2 - 3 =$ | (e) $-12 + 14 - 9 =$ |
| (c) $-4 + 5 - 2 =$ | (f) $-15 + 19 - 3 =$ |