

UNIT 15 *Negative Numbers*

Activities

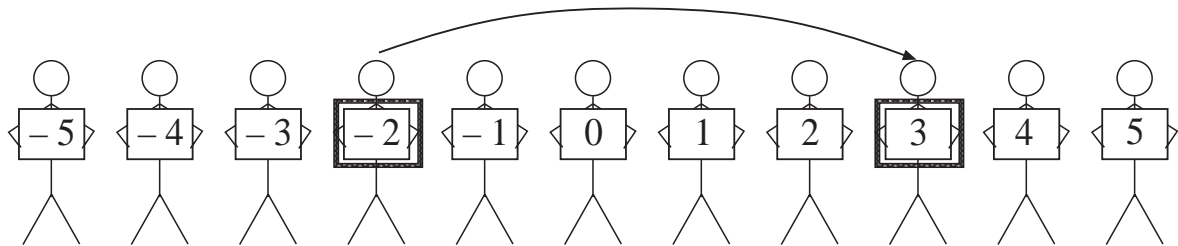
Activities

- 15.1 Human Number Line
 - 15.2 Multiplication and Division
- Notes and Solutions (1 page)

ACTIVITY 15.1

Human Number Line

A line of children, each child holding a numbered card, can be formed as shown below. Another child holds a frame that they then move in front of these cards to illustrate the starting point and solution to the given problem.



On the diagram the movements of the frame for

$$-2 + 5 = 3$$

are illustrated.

Use the number line, with pupil volunteers, to show the sums:

- (a) $-3 + 4 = ?$
- (b) $2 - 7 = ?$
- (c) $3 - 3 = ?$
- (d) $-4 + 5 = ?$
- (e) $-1 + 6 = ?$
- (f) $4 - 8 = ?$

ACTIVITY 15.2

Multiplication and Division

1. Calculate:

(a) $(-2) + (-2) + (-2) + (-2) + (-2) + (-2)$

(b) $(-4) + (-4) + (-4) + (-4) + (-4)$

(c) $(-5) + (-5) + (-5) + (-5) + (-5) + (-5)$

2. Copy and complete the following calculations:

(a) $(-3) + (-3) + (-3) + (-3) = 4 \times \dots$
 $= \dots$

(b) $(-6) + (-6) + (-6) + (-6) + (-6) = \dots \times (-6)$
 $= \dots$

(c) $(-7) + (-7) + (-7) = \dots \times \dots$
 $= \dots$

3. (a) Use the fact that $6 \times 4 = 24$ to calculate $24 \div 6$.

(b) What is the value of $(-6) \times 2$? Use this fact to deduce the values of:

(i) $(-12) \div (-6)$

(ii) $(-12) \div 2$

(c) What is the value of $(-2) \times 8$? Use this fact to deduce the values of:

(i) $(-16) \div (-2)$

(ii) $(-16) \div 8$

(iii) $(-16) \div \left(-\frac{1}{2}\right)$

(d) What is the value of $(-10) \times 8$? Use this fact to deduce the value of:

(i) $(-80) \div 8$

(ii) $(-80) \div -10$

(iii) $(-80) \div (-0.1)$

ACTIVITIES 15.1 - 15.2

Notes and Solutions

Notes and solutions are given only where appropriate.

- 15.1** 1. (a) 1
(b) - 5
(c) 0
(d) 1
(e) 5
(f) - 4

- 15.2** 1. (a) - 12
(b) - 20
(c) - 30

2. (a) $4 \times (-3) = -12$
(b) $5 \times (-6) = -30$
(c) $3 \times (-7) = -21$

3. (a) 4
(b) - 12
(i) 2
(ii) - 6
(c) - 16
(i) 8
(ii) - 2
(iii) 32
(d) - 80
(i) - 10
(ii) 8
(iii) 800