Integers

Eg. $-4 - -5 =$

$-4 + 5 = +1$

Rules for Multiplying Integers

In words:

A plus by a plus is equal to a plus answer $+ \; +$

In symbols:

$+$ by $+ = +$ Eg $+3 \times +4 = +12$

② In words:
A minus by a minus is a positive answer
In symbols:
$\ominus \times \ominus = \oplus$

Eg $-5 \times -2 = +10$

③ A negative number by a positive number will be a negative.

Eg $-3 \times +12 = -36$

$4 \times -2 = -8$

$+ \ -$

$12 \times -3 = -36$

$-4 \times +2 = -8$

$- \ +$

In symbols $\oplus \times \ominus = \ominus$

$\ominus \times \oplus = \ominus$

Rules for Dividing Integers

① $\frac{+}{+} = +$

A positive number divided by a positive number will be a positive answer.

OR

$+ \div + = +$

Eg. $6/3 = 2$ $\quad 8 \div 4 = 2$

② $\frac{-}{-} = +$

A negative number divided by a negative number will be a positive answer.

OR

$- \div - = +$

Eg. $-12/-6 = 2$ OR $-14/-2 = +7$

③ $\frac{-}{+} = -$

OR

$\frac{+}{-} = -$

Eg1) $\frac{-9}{1} = -9$

2) $\frac{10}{-5} = -2$

H/W

test corrections
get test signed
+ comment.

Multiply / Divide Integers

1) like signs give a plus answer

2) unlike signs gives a minus answer.

Remove brachets

$(-3)(-4) = 12$

multiply

Eg1) $-8-(-4+2)$

$-8-(-2)$

$-8+2$

$= -6$

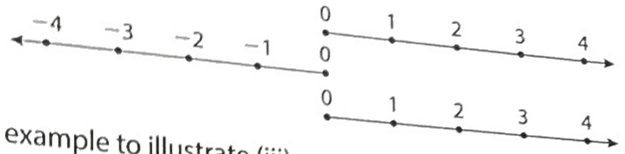
Eg2)

$$\frac{3x-6}{9} = \frac{-18}{9} = -2$$

Investigation:

Considering integers as directed numbers, investigate the principle involved in each of the following lines, particularly line (iii)

(i) +4 ...
(ii) −4 ...
(iii) −(−4) ...



Try to find a practical example to illustrate (iii)

Exercise 2.3

H/W
Pg 43
Q1→3

1. Write down the answer to each of the following:

(i) 6×4 (ii) -5×4 (iii) $7 \times (-8)$
(iv) $5 \times (-9)$ (v) -6×9 (vi) $(-9) \times (-4)$
(vii) $(-8) \times (-6)$ (viii) $10 \times (-7)$ (ix) -9×8
(x) $(-6) \times (-11)$ (xi) $4 \times (-20)$ (xii) $(-18) \times 3$

2. Work out each of these:

(i) $-12 \div 2$ (ii) $36 \div (-4)$ (iii) $-20 \div 5$
(iv) $-15 \div (-5)$ (v) $-30 \div (-10)$ (vi) $-24 \div 8$

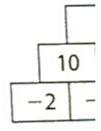
3. Write down the answer to each of these:

(i) $\frac{16}{2}$ (ii) $\frac{-8}{4}$ (iii) $\frac{-27}{3}$ (iv) $\frac{15}{-3}$ (v) $\frac{-42}{-7}$
(vi) $\frac{-35}{7}$ (vii) $\frac{54}{-6}$ (viii) $\frac{-54}{-9}$ (ix) $\frac{-63}{7}$ (x) $\frac{55}{-11}$

4. Find the missing number in each of the following:

(i) $6 \times \square = -48$ (ii) $-4 \times \square = 24$ (iii) $-5 \times \square = -4($
(iv) $-20 \div \square = -4$ (v) $36 \div \square = -9$ (vi) $\square \div (-7) = -$

5. This is a 'multiplication wall'.
The number on each brick is found by multiplying the two numbers on the bricks below.
What will be the number on the top brick of this wall?



(i)