

# Directed Number and Percentage of Amounts

Year 7

Term 4



(1) Key Terms

Percentage	The number of parts per hundred.
Directed Numbers	Numbers that can be negative or positive.
Negative Numbers	Numbers less than zero.
Zero pairs	Two numbers that add together to equal zero. For example, +1 and -1 equal zero.
Evaluate	Calculate the value of an expression.

(2) Percentage of an amount

The **shaded** part of the diagram represent **1%** of the large square.

Percentages and Fractions

50% equals **one-half**

25% equals **one-quarter**

20% equals **one-fifth**

100%

50%50%

100%

25%25%25%25%

100%

20%20%20%20%20%

(3) Order Directed Number

-12 or -4

-4 > -12

The number line shows that -4 is greater than -12.

(4) Add and Subtract Directed Numbers

Show  $4 + (-7) = -3$

+1+1+1+1

-1-1-1-1-1-1-1

~~+1+1+1+1~~

~~-1-1-1-1-1-1-1~~

Show  $5 - (-3) = 8$

+1+1+1+1+1

~~-1-1-1~~

+1+1+1+1+1+1+1+1

~~-1-1-1~~

(5) Divide and Multiply Directed Numbers

$-3 \times 4 = -12$

$-3 \times -4 = 12$

Calculations with a positive answer	Calculations with a negative answer
<div>-5 x -4</div> <div>11 x 17</div> <div>-132 ÷ -10</div>	<div>-8 ÷ 2</div> <div>10 x -5</div> <div>64 ÷ -2</div>

(6) Substitution with negative numbers

In the calculations below  $p = 3$  and  $q = -5$

$p + q = (3) + (-5) = 3 - 5 = -2$

$p - q = (3) - (-5) = 3 + 5 = 8$

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