

# Add directed numbers



1  $-1 = -1$  and  $1 = 1$

What is the total value of each set of counters?

a)  $-1$   $1$

b)  $-1$   $1$   $-1$   $-1$   $1$   $-1$   $1$

c)  $1$   $-1$   $1$   $-1$   $1$   $-1$   $1$

d)  $-1$   $-1$   $-1$   $-1$   $-1$   $-1$   $-1$   
 $1$   $1$   $1$   $1$   $1$   $1$   $1$

e)  $1$   $-1$   $-1$   $1$   $-1$   $-1$   $1$   $-1$   $1$   
 $1$   $-1$   $1$   $-1$   $-1$   $1$   $-1$   $1$   $-1$   
 $1$   $1$

2 Complete the calculations using counters.

a)  $1$   $1$   $1$   
 $-1$   $-1$   $-1$   $-1$   $-1$

$3 + -5 = \square$

b)  $1$   $1$   $1$   $1$   $1$   
 $-1$   $-1$   $-1$

$\square + -3 = \square$

c)  $1$   $1$   
 $-1$   $-1$   $-1$   $-1$   $-1$   $-1$   $-1$

$2 + \square = \square$

d)  $1$   $1$   $1$   $1$   $1$   
 $-1$   $-1$

$-2 + \square = \square$

3 Complete the calculations.

Use counters to help you.

a)  $2 + -7 = \square$

c)  $-2 + 7 = \square$

b)  $-8 + 3 = \square$

d)  $-4 + -3 = \square$

4 Use the counters to help you work out  $-2 + -6$

$-1$   $-1$  +  $-1$   $-1$   $-1$   $-1$   $-1$   $-1$  =  $\square$



5 Complete the calculations.

a)  $8 + -3 =$

$-8 + -3 =$

$3 + -8 =$

$-3 + -8 =$

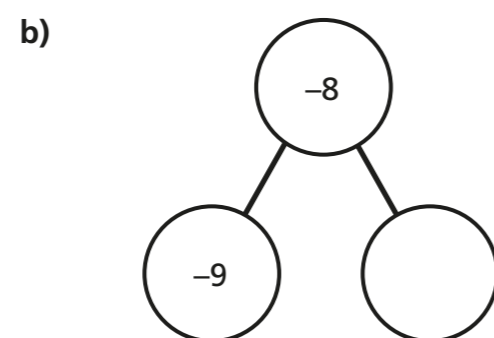
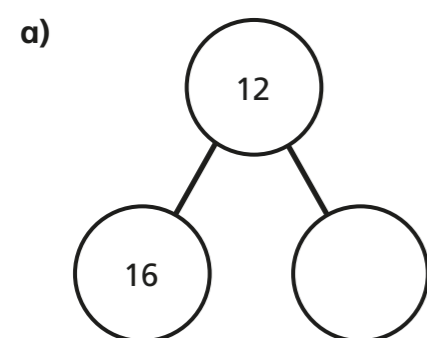
b)  $6 = 7 +$

$-6 = 7 +$

$6 = -7 +$

$-6 = -7 +$

6 Complete the part-whole models.



7 Work out the missing numbers in these statements.

a)  $4 + -9 = 2 +$

c)  $9 + -4 = -7 +$

b)   $-1 = -4 + -9$

d)  $-7 +$    $= -9 + -4$

8 a) Complete the calculation.

$372 + -408 =$

Show your workings.

Compare your method with a partner's.

b) Work out the calculations.

$20 + -35 =$

$-10 + -32 =$

$= 25 + -30$

$291 + -527 =$

$-291 + -527 =$

9 In a quiz, you receive 7 points for a correct answer and  $-4$  points for an incorrect answer.

You receive 0 points if you do not answer the question.

There are 20 questions in total.

Is it possible to get a score of  $-11$  in this quiz? \_\_\_\_\_

Explain your answer.

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10 Simplify the expressions by collecting like terms.

a)  $6m + -10m \equiv$

b)  $-6m + -10m \equiv$

c)  $-6m + 10m \equiv$

d)  $-6m + -10m + 12m \equiv$

e)  $6m + -10m + -17m \equiv$

f)  $-6m + 10m + -24m \equiv$

