Expressions

- Using symbols to represent numbers
- Solving problems using symbols

Keywords

explanation 1 online

1 Each symbol stands for a number. Find its value.

a △ + 3 = 5 **b** ★ − 6 = 4 **c** ⬣ × 2 = 8 **d** 3 + ◆ = 15

e 9 − ♥ = 2 **f** 5 × ■ = 55 **g** ▼ ÷ 3 = 4 **h** ◇ ÷ 10 = 3

i ★ × 4 = 12 **j** 15 ÷ ▲ = 5 **k** 24 − ♥ = 12 **l** ■ + 13 = 21

2 Each symbol stands for a number. Find its value.

a 11 − ◀ = 3 **b** 14 + ♣ = 21 **c** ◗ + ◗ = 10 **d** ✸ + ✸ + ✸ = 60

e ♣ − 8 = 12 **f** ◆ × ◆ = 9 **g** 12 ÷ ♥ = 4 **h** ⬣ + ⬣ = 15

i ■ × ■ × ■ = 8 **j** ▲ ÷ 4 = 4 **k** ★ + ★ = 66 **l** ♣ − 13 = 8

3 ★ + △ = 10. Write three pairs of values of ★ and △ .

4 ★ − △ = 10. Write three pairs of values of ★ and △.

5 ★ × △ = 12. Write three pairs of values of ★ and △.

6 ★ ÷ △ = 4. Write three pairs of values of ★ and △.

explanation 2 online

7 ▲ = 7 and □ = 5. Find the value of these.

a ▲ + 2 **b** 2 × ▲ **c** ▲ − 4 **d** 3 + ▲

e □ + 6 **f** 10 − □ **g** 3 × □ **h** □ − 4

i ▲ + □ **j** ▲ − □ **k** □ × ▲ **l** ▲ × ▲

m □ × □ **n** □ ÷ □ **o** ▲ ÷ ▲ **p** ▲ + □ + 6

8 ★ = 6 and ♠ = 8. Find the value of these.

a ★ + ★ **b** 2 × ★ **c** ♠ + ★ **d** 2 + ♠

e ♠ + ♠ + ♠ **f** 5 × ♠ **g** ★ + ♠ + 4 **h** 3 × ★

9 ▲ = 12 and ● = 8. Find the value of these.

a ▲ + 3 **b** ● − 6 **c** 4 × ▲ **d** 6 + ●

e 30 − ▲ **f** 24 ÷ ● **g** ▲ ÷ 3 **h** ▲ × ●

10 Each symbol stands for a number. Find its value.

a ◀ + 1 = 7 **b** ■ − 2 = 12 **c** ★ × 3 = 21 **d** 5 + ◗ = 14

e 8 − ◆ = 3 **f** 4 × ♣ = 32 **g** ⬢ ÷ 3 = 11 **h** ✸ + ✸ = 30

explanation 3 — online

11 Which card matches which cloud?

a	2 more than ♥	$\frac{♥}{2}$
b	Double ♥	♥ + 2
c	Half of ♥	2♥
d	2 less than ♥	♥ − 2
e	3♥	3 less than ♥
f	♥ − 3	3 more than ♥
g	3 + ♥	♥ divided by 3
h	$\frac{♥}{3}$	3 times ♥

12 Copy and complete the table. The first is done for you.

	Start number	Change	Result
	3	5 more than	3 + 5 = 8
a	7	11 more than	
b	12		12 + 6 = 18
c		10 more than	21 + 10 = 31
d	▲		▲ + 5
e	♥	8 more than	
f		20 less than	□ − 20
g	✷		✷ − 9
h		Double	2■
i	▼	Treble	

13 ♣ stands for a number. Write these expressions in words.

a ♣ − 4 **b** 2♣ **c** 2 + ♣ **d** 3♣

e $\frac{♣}{2}$ **f** ♣ + 5 **g** $\frac{♣}{5}$ **h** ♣ − 5

14 ♣ = 10. Work out the value of each expression in question **13**.

15 ▲ stands for a number. Write these calculations using symbols.

a 5 more than ▲ **b** 3 times ▲ **c** 6 less than ▲

d double ▲ **e** 6 more than ▲ **f** 2 more than ▲

g half of ▲ **h** ▲ divided by 3

16 ● stands for different numbers. Find its value in each question.

a ● + 1 = 4 **b** ● − 2 = 3 **c** 3● = 12 **d** 5 + ● = 7

e 10 − ● = 3 **f** 2● = 20 **g** $\frac{●}{3}$ = 2 **h** ● + ● = 16