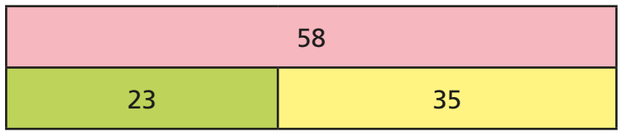
Properties of addition and subtraction

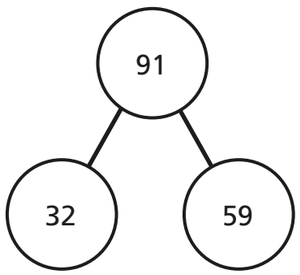
1 Which calculations are represented by the bar model? Tick your answers.



23 + 35 = 58 ☑ 58 + 35 = 23 ☐ 58 = 35 + 23 ☑

23 – 35 = 58 ☐ 58 – 35 = 23 ☑ 23 = 58 – 35 ☑

2 Write two additions and two subtractions represented by the part-whole model.



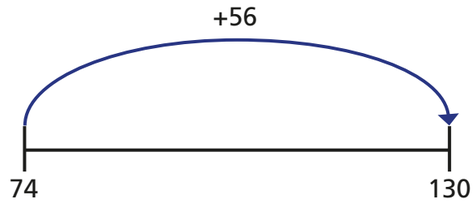
32 + 59 = 91

59 + 32 = 91

91 – 32 = 59

91 – 59 = 32

3 Complete the additions and subtractions represented by the number line.



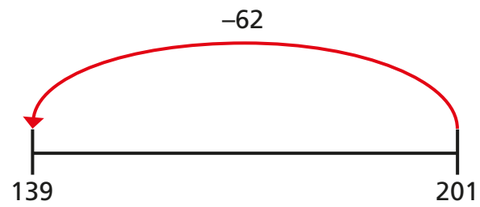
74 + 56 = 130

56 + 74 = 130

130 – 74 = 56

130 – 56 = 74

4 Complete the additions and subtractions represented by the number line.



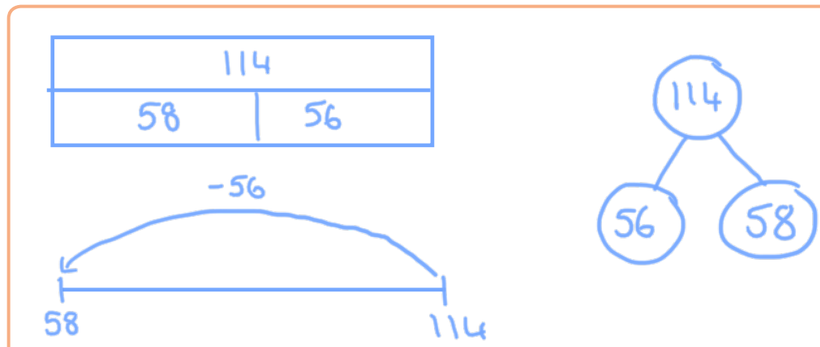
139 + 62 = 201

62 + 139 = 201

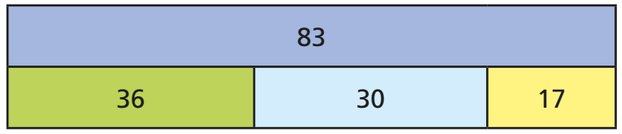
201 – 62 = 139

201 – 139 = 62

5 Draw a bar model, part-whole model and number line to represent the calculation 114 – 56 = 58



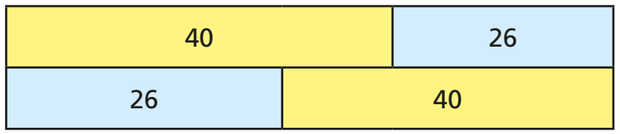
6 Which calculations are represented by the bar model? Tick your answers.

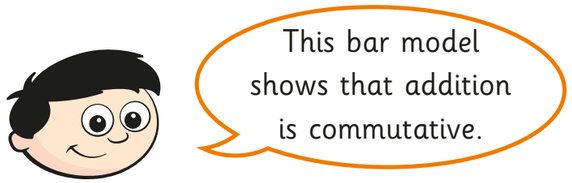


83 = 36 + 30 + 17 ☑ 17 + 30 + 36 = 83 ☑ 83 − 17 = 30 − 36 ☐

83 − 36 = 30 + 17 ☑ 30 + 36 = 17 − 83 ☐ 83 − 17 − 30 = 36 ☑

7

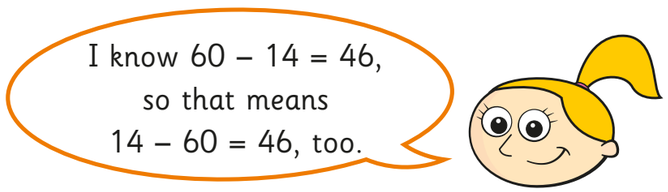




Explain what Dexter means.

Addition can be calculated in any order so 40 + 26 = 26 + 40

8



Explain why Eva is wrong.

Subtraction is not commutative.

9 Nijah works out 57 + 64 + 43 like this:

$$57 + 64 + 43 = 57 + 43 + 64$$
$$= 100 + 64$$
$$= 164$$

a) Why did Nijah change the order of the numbers before adding them?

Nijah spotted a number bond to 100 and doing that first made the calculation easier.

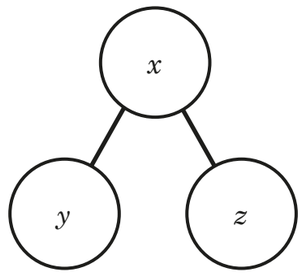
b) Write each of these additions in another order to make them easier. You do not need to work out the answers.

6 + 9 + 2 + 1 + 4 — 6+4+9+1+2

38 + 27 + 62 — 38+62+27

26 + 31 + 74 + 29 — 26+74+31+29

10 Write two additions and two subtractions represented by the part-whole model.



y + z = x

z + y = x

x − y = z

x − z = y

11 Show that these statements are always true.

$a + b + c = a + c + b$ $a + b + c = c + a + b$