Make Ten – Algebra

We are learning to extend our knowledge of compatible numbers

Exercise 1

Richard says 30 + 60 + 70 is the same as 30 + 70 + 60. Judy says it is the same as 60 + 70 + 30.   Who is correct?

For each of the following problems circle true or false.
Do not work out the answers

1) $6 + 9 + 4 = 6 + 4 + 9$ **T F**   (2) $34 + 18 + 6 = 6 + 34 + 18$ **T F**

3) $107 + 94 + 37 = 94 + 107 + 36$ **T F**   (4) $\dfrac{3}{4} + \dfrac{2}{3} + \dfrac{4}{9} = \dfrac{4}{9} + \dfrac{2}{3} + \dfrac{3}{4}$ **T F**

5) $9.3 + 10.7 + 8.4 = 10.7 + 8.3 + 9.2$ **T F**

6) $3\dfrac{2}{9} + 7\dfrac{1}{2} + 3\dfrac{1}{3} = 3\dfrac{1}{3} + 7\dfrac{1}{2} + 3\dfrac{2}{9}$ **T F**

Exercise 2

Zippy says 6 + 8 + 4 – 10 is the same as 6 + 4 + ˉ10 + 8
Is he correct?

For each of the following problems circle true or false.
Do not work out the answers

1) $3 + 9 - 5 + 2 = 3 + 2 - 5 + 9$ **T F**   (2) $12 + 19 + 13 - 25 = 12 + 13 - 25 + 19$ **T F**

3) $3.2 - 4 + 6.2 + 0.8 = 3.2 + 4 - 0.8 + 6.2$ **T F**

Exercise 3

For each of the following fill in the box to make the expression true.

1) $18 + 13 + 27 = \square + 13 + 18$ (2) $107 + \square + 94 = 94 + 107 + 39$

3) $13 - 7 + 5 - 8 = \square - 8 + 13 - 7$ (4) $68 - 32 - 29 + 5 = 5 - \square + 68 - 32$

5) $3.7 + 5.9 + 0.8 = 5.9 + 0.8 + \square$ (6) $4\dfrac{3}{11} - 7\dfrac{2}{9} + \square = 2\dfrac{2}{3} + 4\dfrac{3}{11} - 7\dfrac{2}{9}$

7) $9.2 + \square - \square + 4.9 = \square - 7.1 + \square + 6.3$

Exercise 4

Fill in the box to make the statements true. Each letter stands for any number.

1) $69 + 13 + a = 13 + \square + 69$

(2) $104 + b + c = b + \square + 104 = c + 104 + \square$

3) $37 + 58 + d = \square + 58 + \square = \square + 58 + \square$ (4) $14 - q + 15 = 15 - \square + 14$

5) $76 + g - z = g + \square - \square$

(6) $a + b + c = \square + c + b = \square + \square + a = \square + \square + \square$

7) $e + f - g = \square - g + f = \square + f - \square = \square + \square + \square$

Make Ten – Algebra
Answers

Exercise 1

Both are correct as order does not matter when you are adding numbers together.

1) **T**   (2) **T**   (3) **F**   (4) **T**

5) **F**   (6) **T**

Exercise 2

Yes because order does not matter when adding and subtraction

1) T   (2) T   (3) F

Exercise 3

1) $18 + 13 + 27 = \underline{\mathbf{27}} + 13 + 18$

(2) $107 + 39 + 94 = 94 + 107 + \underline{\mathbf{39}}$

3) $13 - 7 + 5 - 8 = \underline{\mathbf{5}} - 8 + 13 - 7$

(4) $68 - 32 - 29 + 5 = 5 - 29 + 68 - 32$

5) $3.7 + 5.9 + 0.8 = 5.9 + 0.8 + 3.7$

(6) $4\frac{3}{11} - 7\frac{2}{9} + 2\frac{2}{3} = 2\frac{2}{3} + 4\frac{3}{11} - 7\frac{2}{9}$

7) $9.2 + \underline{\mathbf{6.3}} - \underline{\mathbf{7.1}} + 4.9 = \underline{\mathbf{4.9}} - 7.1 + \underline{\mathbf{9.2}} + 6.3$ (the order of the 4.9 and the 9.2 could be interchanged)

Exercise 4

1) $69 + 13 + a = 13 + \underline{\mathbf{a}} + 69$

(2) $104 + b + c = b + \underline{\mathbf{c}} + 104 = c + 104 + \underline{\mathbf{b}}$

3) $37 + 58 + d = \underline{\mathbf{37}} + 58 + \underline{\mathbf{d}} = \underline{\mathbf{d}} + 58 + \underline{\mathbf{37}}$

(4) $14 - q + 15 = 15 - \underline{\mathbf{q}} + 14$

5) $76 + g - z = g + \underline{\mathbf{76}} - \underline{\mathbf{z}}$

(6) $a + b + c = \underline{\mathbf{a}} + c + b = \underline{\mathbf{b}} + \underline{\mathbf{c}} + a$ or $\underline{\mathbf{c}} + \underline{\mathbf{b}} + a = \square + \square + \square$ (any combination of a,b,c)

7) $e + f - g = e - g + f = e + f - g = \square + \square + \square$ (any combination of e,f, ⁻g)