Mathematics

Exercise 11.3

Question 1:
Make up as many expressions with numbers (no variables) as you can from three numbers 5, 7 and 8. Every number should be used not more than once. Use only addition, subtraction and multiplication.

(**Hint**: Three possible expressions are 5 + (8 – 7), 5 – (8 – 7), (5 x 8) + 7 make the other expressions)

Answer 1:
(a) (8 x 5) – 7
(b) (8 + 5) – 7
(c) (8 x 7) – 5
(d) (8 + 7) – 5
(e) 5 x (7 + 8)
(f) 5 + (7 x 8)
(g) 5 + (8 – 7)
(h) 5 – (7 + 8)

Question 2:
Which out of the following are expressions with numbers only:

(a) $y + 3$
(b) $(7 \times 20) - 8z$
(c) $5(21 - 7) + 7 \times 2$
(d) 5
(e) $3x$
(f) $5 - 5n$
(g) $(7 \times 20) - (5 \times 10) - 45 + p$

Answer 2:
(c) and (d)

Question 3:
Identify the operations (addition, subtraction, division, multiplication) in forming the following expressions and tell how the expressions have been formed:

(a) $z + 1, z - 1, y + 17, y - 17$
(b) $17y, \dfrac{y}{17}, 5z$
(c) $2y + 17, 2y - 17$
(d) $7m, -7m + 3, -7m - 3$

Answer 3:
(a) $z + 1 \rightarrow$ Addition $z - 1 \rightarrow$ Subtraction

$y + 17 \rightarrow$ Addition $y - 17 \rightarrow$ Subtraction

(b) $17y \rightarrow$ Multiplication $\dfrac{y}{17} \rightarrow$ Division

$5z \rightarrow$ Multiplication

(c) $2y + 17 \rightarrow$ Multiplication and Addition

$2y - 17 \rightarrow$ Multiplication and Subtraction

(d) $7m \rightarrow$ Multiplication

$-7m + 3 \rightarrow$ Multiplication and Addition

$-7m - 3 \rightarrow$ Multiplication and Subtraction

Question 4:
Give expressions for the following cases:

(a) 7 added to p.   (b) 7 subtracted from p.   (c) p multiplied by 7.

(d) p divided by 7.   (e) 7 subtracted from $-m$.   (f) $-p$ multiplied by 5.

(g) $-p$ divided by 5.   (h) p multiplied by -5.

Answer 4:

(a) $p+7$ (b) $p-7$ (c) $7p$

(d) $\dfrac{p}{7}$ (e) $-m-7$ (f) $-5p$

(g) $\dfrac{-p}{5}$ (h) $-5p$

Question 5:
Give expression in the following cases:

(a) 11 added to $2m$.

(b) 11 subtracted from $2m$.

(c) 5 times y to which 3 is added.

(d) 5 times y from which 3 is subtracted.

(e) y is multiplied by -8.

(f) y is multiplied by -8 and then 5 is added to the result.

(g) y is multiplied by 5 and result is subtracted from 16.

(h) y is multiplied by -5 and the result is added to 16.

Answer 5:

(a) $2m+11$ (b) $2m-11$ (c) $5y+3$

(d) $5y-3$ (e) $-8y$ (f) $-8y+5$

(g) $16-5y$ (h) $-5y+16$

Question 6:

(a) From expressions using t and 4. Use not more than one number operation. Every expression must have t in it.

(b) Form expressions using y, 2 and 7. Every expression must have y in it. Use only two number operations. These should be different.

Answer 6:

(a) $t+4, t-4, 4-t, 4t, \dfrac{t}{4}, \dfrac{4}{t}$

(b) $2y+7, 2y-7, 7y+2, 7y-2$ and so on.