Brackets (English Medium)

Exercise

Solution 1(1):

[3 + 2{3 × (6 ÷ 2)}] – 1
= [3 + 2{3 × 3}] – 1
= [3 + 2{9}] – 1
= [3 + 18] – 1
= [21] – 1
= 21 – 1
= 20

Solution 1(2):

[6 + 2{2 × (10 ÷ 2)}] – 4
= [6 + 2{2 × 5}] – 4
= [6 + 2{10}] – 4
= [6 + 20] – 4
= [26] – 4
= 26 – 4
= 22

Solution 1(3):

[3 + 2{2 × (6 ÷ 2)}] – 3
= [3 + 2{2 × 3}] – 3
= [3 + 2{6}] – 3
= [3 + 12] – 3
= [15] – 3
= 15 – 3
= 12

Solution 1(4):

[4 + 3{4 × (6 ÷ 3)}] – 1

= [4 + 3{4 × 2}] – 1
= [4 + 3{8}] – 1
= [4 + 24] – 1
= [28] – 1
= 28 – 1
= 27

Solution 1(5):

[3 + 2{3 × (6 ÷ 2)}] – 2
= [3 + 2{3 × 3}] – 2
= [3 + 2{9}] – 2
= [3 + 18] – 2
= [21] – 2
= 21 – 2
= 19

Solution 1(6):

[4 + 5{2 × (5 – 1)}] – 4
= [4 + 5{2 × 4}] – 4
= [4 + 5{8}] – 4
= [4 + 40] – 4
= [44] – 4
= 44 – 4
= 40

Solution 1(7):

[3 + 4{2 × (3 – 1)}] + 7
= [3 + 4{2 × 2}] + 7
= [3 + 4 × {4}] + 7
= [3 + 16] + 7
= [19] + 7
= 19 + 7
= 26

Solution 1(8):

[1 + 2{3 × (4 – 3)}] × 2
= [1 + 2{3 × (1)}] × 2
= [1 + 2{3}] × 2
= [1 + 6] × 2
= [7] × 2
= 7 × 2
= 14

Solution 2(1):

a – [a + {a – (a + 2)} + 2]
= a – [a + {a – a – 2)} + 2]
= a – [a + {- 2)} + 2]

= a – [a – 2 + 2]
= a – [a]
= a – a
= 0

Solution 2(2):

3y – [2y – {4 – (y – 2)} – 5]
= 3y – [2y – {4 – y + 2} – 5]
= 3y – [2y – {6 – y} – 5]
= 3y – [2y – 6 + y – 5]
= 3y – [2y + y – 6 – 5]
= 3y – [3y – 11]
= 3y – 3y + 11
= 11

Solution 2(3):

3a – [{3a – (y – 2y)} – 3a] + y
= 3a – [{3a – (-y)} – 3a] + y
= 3a – [{3a + y} – 3a] + y
= 3a – [3a + y – 3a] + y
= 3a – [y] + y
= 3a – y + y
= 3a

Solution 2(4):

$[3x^2 – \{4x – (2x^2 + 5x – 3)\}] – 5$
$= [3x^2 – \{4x – 2x^2 – 5x + 3\}] – 5$
$= [3x^2 – 4x + 2x^2 + 5x – 3] – 5$
$= [3x^2 + 2x^2 – 4x + 5x – 3] – 5$
$= [5x^2 + x – 3] – 5$
$= 5x^2 + x – 3 – 5$
$= 5x^2 + x – 8$

Solution 2(5):

-x – [x – {-(- x)}]
= -x – [x – {x)}]
= -x – [x – x]
= – x – 0
= (- x)

Solution 3(1):

[6 + 3{4 × (9 – 2)}] + 10
Verification:
[6 + 3{4 × (9 – 2)}] + 10
= [6 + 3{4 × 7}] + 10
= [6 + 3{28}] + 10
= [6 + 84] + 10

= [90] + 10
= 90 + 10
= 100

Solution 3(2):

2[6 + 3{4 × (5 – 1)}] – 8
Verification:
2[6 + 3{4 × (5 – 1)}] – 8
= 2[6 + 3{4 × (4)}] – 8
= 2[6 + 3{16}] – 8
= 2[6 + 48] – 8
= 2[54] – 8
= 108 – 8
= 100

Solution 3(3):

2[9{5 × (7 – 4)} ÷ 3] + 10
Verification:
2 [9{5 × (7 – 4)} ÷ 3] + 10
= 2[9{5 × (3)} ÷ 3] + 10
= 2[9{15} ÷ 3] + 10
= 2[135 ÷ 3] + 10
= 2[45] + 10
= 90 + 10
= 100

Solution 3(4):

[4{8 × (9 ÷ 3)} + 5] – 1
Verification:
[4{8 × (9 ÷ 3)} + 5] – 1
= [4{8 × (3)} + 5] – 1
= [4{24} + 5] – 1
= [96 + 5] – 1
= [101] – 1
= 101 – 1
= 100

Solution 3(5):

[3{7 × (10 ÷ 2)} – 6] + 1

Verification:
[3{7 × (10 ÷ 2)} – 6] + 1
= [3{7 × (5)} – 6] + 1
= [3{35} – 6] + 1
= [105 – 6] + 1
= [99] + 1
= 99 + 1
= 100

Practice – 1

Solution 1:

$7 + \{3 + (5 – 3)\}$
$= 7 + \{3 + 2\}$
$= 7 + \{5\}$
$= 7 + 5$
$= 12$

Solution 2:

$10 – \{8 + (4 \div 2)\}$
$= 10 – \{8 + 2\}$
$= 10 – 10$
$= 0$

Solution 3:

$19 – [30 – \{12 + (8 – 3)\}]$
$= 19 – [30 – \{12 + 5\}]$
$= 19 – [30 – 17]$
$= 19 – 13$
$= 6$

Solution 4:

$5x – [-\{-(-5x)\}]$
$= 5x – [-\{5x\}]$
$= 5x + 5x$
$= 10x$

Solution 5:

$30 – [\{17 + (9 – 4)\} + 17]$
$= 30 – [\{17 + 5\} + 17]$
$= 30 – [\{22\} + 17]$
$= 30 – [39]$
$= (-9)$

Solution 6:

$5 + [18 – \{27 – (12 – 3)\}] – 6$
$= 5 + [18 – \{27 – (9)\}] – 6$
$= 5 + [18 – \{18\}] – 6$
$= 5 + [0] – 6$
$= 5 – 6$
$= (-1)$

Solution 7:

$\{(3x^2 – 6x + 5) + (2x – 2x^2 + 5)\} – (x^2 – 4x + 10)$

$= \{3x^2 – 6x + 5 + 2x – 2x^2 + 5\} – (x^2 – 4x +10)$

$= \{3x^2 – 2x^2 – 6x + 2x + 5 + 5\} – (x^2 – 4x +10)$

$= \{x^2 – 4x + 10\} – (x^2 – 4x + 10)$

$= x^2 – 4x + 10 – x^2 + 4x – 10)$

$= x^2 – x^2 – 4x + 4x + 10 – 10$

$= 0$

Solution 8:

$3m – \{m + 2(5 – m)\}$

$= 3m – \{m + 10 – 2m\}$

$= 3m – \{-m + 10\}$

$= 3m + m – 10$

$= 4m – 10$

Solution 9:

$[\{5x – (x + 3y)\} – \{x + (2x – y)\}]$

$= [\{5x – x – 3y\} – \{x + 2x – y\}]$

$= [\{4x – 3y\} – \{3x – y\}]$

$= [4x – 3y – 3x + y]$

$= 4x – 3x – 3y + y$

$= x – 2y$

Solution 10:

$15 – [3x – \{x + (2x + 5) – (x + 3)\}]$

$= 15 – [3x – \{x + 2x + 5 – x – 3\}]$

$= 15 – [3x – \{x + 2x – x + 5 – 3\}]$

$= 15 – [3x – \{2x + 2\}]$

$= 15 – [3x – 2x – 2]$

$= 15 – [x – 2]$

$= 15 – x + 2$

$= 17 – x$