ANSWER/INTERPRETATION

TO

UNDERSTANDING QUANTITATIVE REASONING *for* ELEMENTARY SCHOOLS

5

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GATEWAY UNIVERSITIES PUBLISHERS

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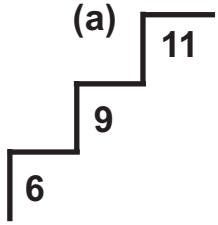
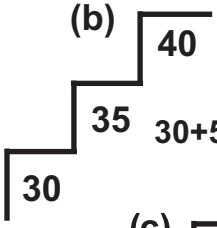
Section B

(a)



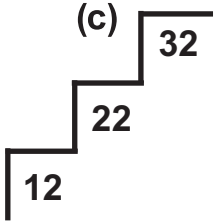
interpretation
6+3 = 9+3 = 11

(b)



30+5 = 35+5 = 40

(c)



12+10 = 22+10 = 32

11. 33
12. 200
13. 30
14. 100
15. 36
16. 105
17. 90
18. 45
19. 260
20. 475

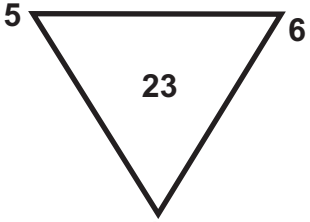
EXERCISE 2

Section A

1. 23
2. 11
3. 17
4. 3/2
5. 9/2
6. 13/5
7. 17
8. 95
9. 13
10. 22

Section B

(a)



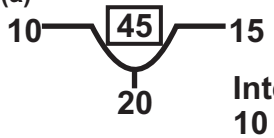
Interpretation
5 + 6 + 12 = 23

11. 15 + 20 + 8 = 43
12. 31 + 15 + x = 85
x = 85 - 46
x = 39.
13. 9 + 25 + x = 49
34 + x = 49
x = 49 - 34
x = 15
14. X + 18 + 21 = 55
x + 39 = 55
x = 55 - 39
x = 16
15. 66 + 32 + 22 = 120
16. 44 + x + 15 = 105
x + 59 = 105
x = 105 - 59
x = 46
17. 85 + 49 + x = 211
134 + x = 211
x = 211 - 134
x = 77
18. 125 + x + 93 = 240
x + 218 = 240
x = 240 - 218
x = 22
19. 158 + x + 240 = 516
x + 398 = 516
x = 516 - 398
x = 118
20. 85 + 56 + 105 = 246

EXERCISE 3

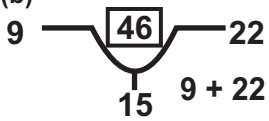
Section A

(a)



Interpretation
10 + 15 + 20 = 45

(b)



9 + 22 + 15 = 46

1. 35 + 15 + 9 = 59
2. 16 + 24 + x = 59
x = 59 - 40
x = 19
3. x + 30 + 24 = 72
x = 72 - 54
x = 18
4. 19 + 116 + 23 = 158
5. 65 + 42 + x = 146
x = 146 - 107
x = 39
6. 28 + 30 + x = 98
x = 98 - 58
x = 40

7. X + 24 + 72 = 106
x = 106 - 96
x = 10
8. 105 + 140 + x = 316
x = 316 - 245
x = 71
9. 32 + x + 26 = 79
x = 79 - 58
x = 21
10. X + 52 + 86 = 174
x = 174 - 138
x = 36

Section B

		interpretation
6 4	= 16	6+6+4 = 16
5 3	= 13	5+5+3 = 13
7 10	= 24	7+7+10 = 24

	interpretation
9 *** 2 = 17	9 + 8 = 17
7 *** 5 = 25	7+6+5+4+3 = 25
12 *** 3 =33	12+11+10 = 33

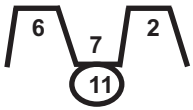
11. 8 + 8 + 2 = 18
12. 3 + 3 + 7 = 13
13. 20 + 19 = 39
14. X = 15
15. 4 + 4 + x = 11
    8 + x = 11
    x = 11 - 8
    x = 3
16. X + x + 4 = 24
    2x + 4 = 24
    2x = 24 - 4
    2x = 20
    x = 10
17. (4 + 3 + 2) = 9
    9 + 8 = 17
18. 5 + 4 + 3 = 12
    Fist position, Second position, 3rd position
    x = 3

19. 4 + 4 + 5 = 13
    2 + 2 + 13 = 17
20. X + x + 5 = 21
    2x = 21 - 5
    x = 16/2
    x = 8
21. 6
22. 3
23. (3Y2) Y4 = ☐
    3Y2 =3+3+2 = 8
8Y4 = 8+8+4 = 20
24. (8Y5)Yo = ☐
    8Y5 = 8+8+5 =21
(21 Yo) = 21 + 21 + 10 = 42
25. 10 + 9 + 8 = 27
26 (9+8+7+6+5) = 35
    Answer = 5
27. (X)+(X-1)+(x-2)+(x-3) = 22
x + x - 1 + x- 2+ x + x-3 = 22
    4x - 6 = 22
    4x = 22+6
    4x =28
    x = $\frac{28}{4}$ = 7
28. 15 + 15 + 10 = 40
29. X + x + 5 = 45
    2X + 5 = 45
    2X = 45 - 5
    2X = 40
    X = 40/2 X = 20
30 12 + 11 + 10 + 9 = 42
1st position, 2nd position, 3rd position
x = 4

EXERCISE 4

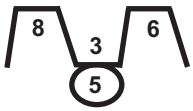
Section A **Interpretation**

(a)



6 + 7 = 13 - 2 = 11

(b)

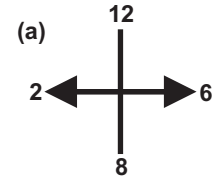


8 +3 = 11 - 6 + 5

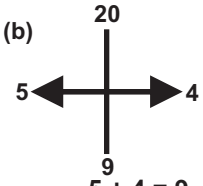
1. 50 + 20 = 70 +30 = 40
2. 1(10+x) - 4 = 14
   x + 6 = 14
   x = 14 - 6
   x = 8

3. x + ½ - 4½ = 4¼
   x = 4¼ + 4½ - ½
   x = $\frac{17}{4} + \frac{9}{2} - \frac{1}{2}$
   x = $\frac{17 + 18 - 2}{4} = \frac{33}{4}$
   x = 8¼
4. (6 + 2) - 8 = 0
5. 8 + 11 - x =17
   19 - x = 17
   x = 19 - 17
   x = 2
6. 75 + 30 - x = 80
   105 + x =80
   x = 25
7. 105 + x - 70 = 50
   35 + x = 50
   x = 50 - 35
   x = 15
8. X + 30- 45 = 65
   x - 15 = 65
   x = 80
9. (75 + 60) - 92 = 43
10. 210 + 50 - X = 36
    260 - x = 36
    x = 260 - 36
    x = 224

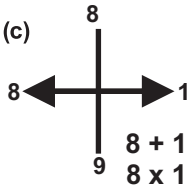
Section B



interpretation
2 + 6 = 8
2 x 6 =12
12 : 2 = 6



5 + 4 = 9
5 x 4 = 20
20 ÷ 5 = 4

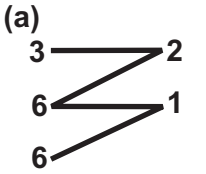


8 + 1 = 9
8 x 1 = 8
8 ÷ 8 = 1

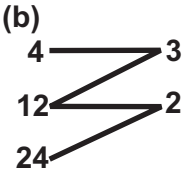
11. 50/10 = 5
12. 7 x 2 = 14
13. 16/4 = 4
14. ½ + 12 = 12½
15. ½ x ½ = ¼
16. 35/5 = 7
17. 5 + 9 = 14
18. 77/11 = 7
19. 10 x 9 = 90
20. 17 - 12 = 5

EXERCISE 5

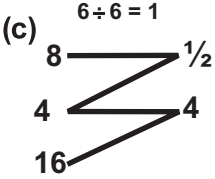
Section A



interpretation
3 x 2 = 6
6 ÷ 3 = 2
6 ÷ 6 = 1



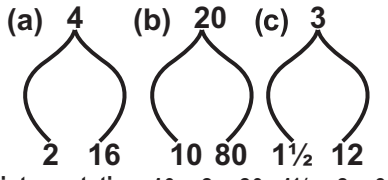
4 x 3 = 12
12 ÷ 4 = 3
24 ÷ 12 = 2



8 x ½ = 4
4 ÷ 8 = ½
16 ÷ 4 = 4

1. 30 ÷ 6 = 5
2. 15 ÷ 5 = 3
3. 6 x 4 = 24
4. 24 ÷ 8 = 3
5. 8 x 2 = 16
6. 30 x 2 = 60
7. 8 ÷ 2 = 4
8. 27 ÷ 3 = 9
9. 9 ÷ 3 = 3
10. 45 ÷ 3 = 15

Section B



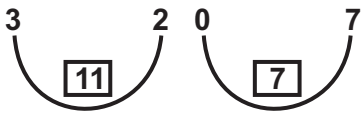
interpretation
2 + 2 = 4
4 x 4 = 16

10 x 2 = 20
20 x 4 = 80

1½ x 2 = 3
3 x 4 = 12

11. 11 ÷ 2 = 11/2
12. 16 ÷ 2 = 8
13. 15 x 2 = 30
14. 7 x 2 = 14
15. 2 x 4 = 8
16. 24 x 4 = 96
17. 5 ÷ 2 = 2½
18. 50 ÷ 2 = 25
19. 1¼ x 2 = 2½
20. 90 x 4 = 360

EXERCISE 6

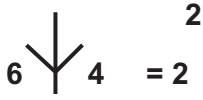


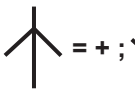
interpretation
(3 x 2) + 5 = 11

(0 x 7) + 7 = 7

1. (5 x 8) + 13 = 53
2. (6 x 6) + x = 48
   36 + x = 48
   x = 48 - 36
   x = 12
3. (19 + x) + 19 = 19
   19x = 19 - 19
   19x = 0
   x = 0
4. (12 x X) + 13 = 55
   12x =55 - 13
   12x = 42
   x = 42/12
   x = 3½
5. (12x X) + 17 = 77
   12x = 77 - 17
   x = 60/12
   x = 5
6. (15 x 3) + 25 = 70
7. (25 x 4) + x = 115
   100 + x = 115
   x = 115 - 100
   x = 15
8. (X x 7) + 65 = 135
   7x = 135 - 65
   x = 70/7
   x = 10
9. (X x 5) + 18 = 63
   5x = 63 - 18
   x = 45/5
   x = 9
10. (15 x 11) + x = 170
    165 + x = 170
    x = 170 - 165
    x = 170 - 165
    x = 5

Section B

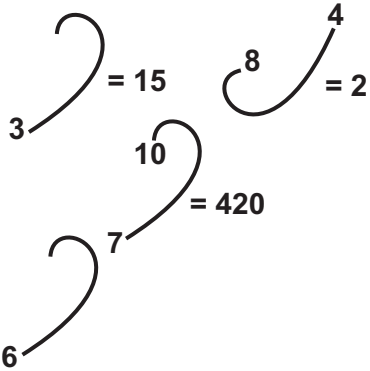


interpretation: 

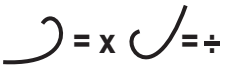
11. X + 35 = 5
    x = 5 - 35
    x = - 30
12. 17 + x = 28
    x = 28 - 17
    x = 11
13. (12 + 7) - 2 ½ = x
    19 - 2½ = 16 ½
14. (34 + 43) - 1 = 66
15. 56 - x = 12 + 14
    56 - x = 26
    x = 56 - 26
    x = 30
16. X + 75 = 150
    x = 150 - 75
    x = 75
17. 85 - x = 20 - 15
    85 - x = 5
    x = 85 - 5
    x = 80
18. X - 98 = 28 - 20
    x - 98 = 8
    x = 8 + 98
    x = 106
19. (125 + 72) - 140 = 57
20. (98 + 85) - x = 60
    x = 183 - 60
    x = 123

EXERCISE 7

Section A



Interpretation:



1. 30÷3 = 10
2. 5 x 9 = 45
3. 10 x 9 x X = 450
   x = 450/90
   x = 5
4. 25÷5 = 5 x 4 = 20
5. 120÷X = $\frac{120}{X}$ x 10 = 240

   $\frac{120}{X} = \frac{240}{10}$

   $X = \frac{120 \times 10}{240} = 5$
6. 108÷18 = 6
7. $\frac{X}{10} = \frac{2}{1}$ x 10

   $\frac{X}{10} = \frac{20}{1}$

   x = 10 x 20 = 200
8. 39÷13 = 3 x 10 = 30
9. 7÷21 = 1/3 x 9 = 3
10. 15÷15 = 1÷15 = 1/15

Section B

2! = 2 x 1 = 2
4! = 4 x 3 x 2 x 1 = 24
6! = 6 x 5 x 3 x 2 x 1 = 720

11. (3x2x1) + (5x4x3x2x1)
    6 + 120 = 126
12. $\frac{6x5x4x3x2x1}{4x3x2x1} = \frac{720}{24} = 30$
13. (4x3x2x1) - (3x2x1) = 4
    24 - 6 = 18
14. $\frac{(3x2x1) + (2x1)}{2 \times 1} = 4$
15. 3x2x1 = 6
    6xX = 30
    X = 30÷6
    X = 5
16. $\frac{5x4x3x2x1}{3x2x1} = 20$
17. $\frac{5!}{2!} - 4! =$

    $\frac{5x4x3x2x1 - 4x3x2x1}{2 \times 1}$

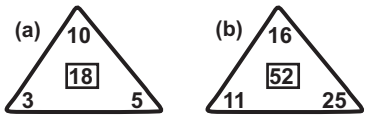
    $\frac{120 - 24 = 96 = 48}{2 \quad 2}$
18. $\frac{(5x4x3x2x1) - (5x4x3x2x1)}{(3x2x1)}$

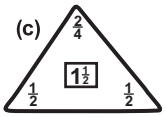
    $\frac{(720 - 120)}{6}$

    = 600/6 = 100
19. 150 - (4x3x2x1) =
    150 - 24 = 126
20. (6x5x4x3x2x1)-(5x4x3x2x1) + 3!
    = (720 - 120) + (3x2x1)
    = 600 + 6 = 606

EXERCISE 8

Section A interpretation





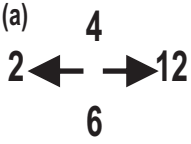
⅔ + ½ + ½ = ½

1. 9 + 5 + 4 = 18
2. 22 + X + 10 = 44
   X = 44 - 32
   X = 12
3. X + 5 +5 = 10
   X + 10 = 10
   X = 0
4. 63 + 27 + X = 139
   X = 139 - 90
   X = 49
5. X + ¾ + ½ = 1¼
   X = 1¾ - 1¼
   X = ½

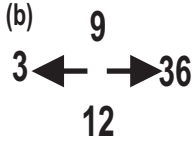
6. 45 + x + 32 = 102
x = 102 - 77
x = 25
7. 75 + 36 + 25 = 136
8. 64 + 18 + X = 115
X = 115 - 82
X = 33
9. X + 2/7 + 3/7 = 6/7
X = 6/7 - 5/7 = 1/7
10. 21/5 + 3/5 + X = 31/5
X = 31/5 - 24/5
X = 2/5

Section B

(a)



(b)

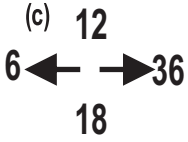


Interpretation

$12 \div 6 = 2x2 = 4$

$36 \div 12 = 3x3 = 9$

(c)



$36 \div 18 = 2 \times 6 = 12$

11. $(X \div 10) \times 2 = 6$
$x \div 10 = 3$
$x = 30$
12. $24 \div 8 = 3x2 = 6$

Section B

13. $\frac{60}{X} \times 3 = 12$
$12x = 60 \times 3$
$x = \frac{60 \times 3}{12} = 15$
14. $(42 \div 21) \times X = 14$
$2X = 14 \qquad X = 14/2 = 7$
15. $\frac{18}{9} \times X = 6$
$18x X = 9 \times 6$
$x = \frac{9x6}{18} = 3$
16. $X \div 20x20 - 16$
$x \div 20 = 8$
$x = 160$
17. $\frac{30}{X} \times 3 = 15$
$15x = 30 \times 3$
$x = \frac{30 \times 3}{15} = 6$
18. $(88 \div 11) \times 5 = 40$
19. $(X \div 6) x2 = 12$
$x \div 6 = 6$
$x = 36$
20. $64 \div 16 \times 4 = 16$

EXERCISE 9

Section A

(a) $P \oplus Q = \frac{P+Q}{2}$ $\therefore 5 \oplus 3 = \frac{5+3}{2} = \frac{8}{2} = 4$

(b) $m \ominus n = 2(m - n)$. $\therefore 6 \ominus 5 = 2(6 - 5) = 2$

Interpretation: $\oplus$ = + and $\ominus$ = -

1. $\frac{3 + 11}{2} = \frac{14}{2} = 7$
2. $2(10-7) = 6$
3. $(8 \oplus 5) = \frac{8+5}{2} = \frac{13}{2}$

$\frac{13}{2} \ominus 3 = 2(\frac{13}{2} - 3)$

$2(\frac{13 - 6}{2})$

$13 - 6 = 7$

4. $\frac{X + 3}{2} = 7$

$X = 14 - 3 = 11$

5. $2 (8 - X) = 6$
$16 - 2X = 6$
$2X = 10$
$X = 5$
6. $2(15 - 6) = \frac{18 + X}{2} = 10$
$X = 20 - 18$
$X = 2$

7. $\frac{10 + X}{2} \ominus 7 = 1$

$2(\frac{10 + X}{2} - 7) = 1$

$2(\frac{10 + X - 14}{2}) = 1$

$10 + X - 14 = 1$

$-4 + X = 1$

$X = 1 + 4$

$X = 5$

8. $2(20 - 8) = 24$

9. $\frac{12 + 5}{2} = \frac{17}{2}$

10. $2(X - 6) = 18$

$2X - 12 = 18$

$X = 15$

Section B

5 P4 = 9 **9 q 6 = 3**

1 P 1 6 = 17 **1 2 P 6 q 5 = 13**

Interpretation: P = + and q = -

11. 17 + 23 = 40
12. 27 + 6 - 9 = 24
13. 36 + 4 + x - 7 = 54

x - 7 = 54 - 40

x = 14 + 7

x = 21

14. X + 15 = 15

x = 0

15. X - 9 ½ = ½

x = ½ + 9 ½

x = 10

16. 78 - x = 42

x = 78 - 42 = 36

17. X - 66 = 120

x = 120 + 66

x = 186

18. 25 + 6 - 11 = 20
19. 125 + x - 49 = 137

76 + x = 137

x = 61

20 X - 80 +34 = 96

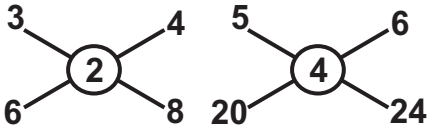
x - 46 = 96

x = 96 + 46

x = 142

EXERCISE 10

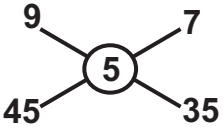
Section A



Interpretation:

3 x 2 = 6 5 x 4 = 20

4 x 2 = 8 6 x 4 = 24



9 x 5 = 45

7 x 5 = 35

1. 5 x 3 = 15
2. 3 x 10 = 30
3. 60 ÷ 20 = 3
4. 16 ÷ 8 = 2
5. 30 ÷ 5 = 6
6. 28 ÷ 4 = 7
7. 8 x 6 = 48
8. 36 ÷ 9 = 4
9. 9 x 3 = 27
10. 72 ÷ 6 = 12

Section B

12 < 15 = 15 - 12 = 3

9 > 5 = 9 + 5 = 14

3 ^4 = 3 x 4 = 12

12 v2 = 14 ÷ 2 = 7

Interpretation:

> = + < = -

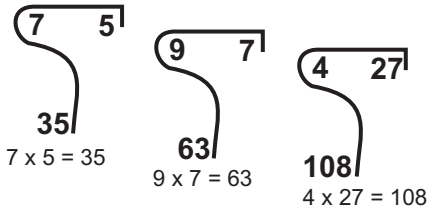
^ = x v = ÷

11. 15 - 10 = 5
12. 18 + 6 = 24
13. (8 + 4) ÷ 2 = 6
14. (15 - 9) x 2 = 12
15. (30 ÷ 3) ÷ 5 = 2
16. 95 ÷ 5 = 19
17. 35 x 6 = 210

18. 36 - x = 72
x = 36 - 72
x = -36
19. (36 + x) ÷ 3 = 20
X = 60 - 36
x = 24
20. (19 - 16) xX = 28
3x = 28
x = 28/3
x = 91/3

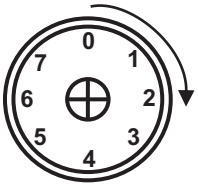
EXERCISE 11

Section A



1. 109 ÷ 13 = 85/13
2. 0 x 5 = 0
3. 84÷7 = 12
4. 225÷9 = 12
5. 7÷3 ½ = 2
6. 2½ x 10 = 25
7. 49 ÷ 14 = $3\frac{7}{14}$
8. 72÷12 = 6
9. 35 x 6 = 210
10. 170÷32/5 = 50

Section B



3 ⊕ 2 = 5

4 ⊕ 5 = 1

6 ⊕ 1 ⊕ 3 = 2

11. 7
12. 7
13. 2
14. 4
15. 3
16. 4
17. 2
18. 2
19. 5
20. 5

EXERCISE 12

Section A

1. 10
2. 4
3. 0
4. 8
5. 9
6. 16
7. 20
8. 67
9. 0
10. 16 + 9 + 0 = 25

Section B

11. 60
12. 8
13. 130
14. 20
15. 9
16. 15
17. 7
18. 15
19. 7
20. 21
21. 294
22. 24
23. 35
24. 9
25. 9
26. 5
27. 10
28. 5

EXERCISE 13

Section A

3	1
2	6
7	5

$5\frac{1}{2}$	$7\frac{1}{2}$
2	$2\frac{1}{2}$
$3\frac{1}{2}$	1

Interpretation:

3 + 2 + 7 = 12
1 + 6 + 5 = 12

1 + 2½ + 7½ = 11
5½ + 2 + 3½ = 11

1. 8½ + X + 4½ = 25½
   x = 25½ - (8½ + 4½)
   x 12½
2. 27 + 34 + x = 61
   x = 61 - 61
   x = 0
3. 7 + 34 + x = 51
   x = 51 - 41
   x = 10
4. $8\frac{1}{4}$ + x + 6 = $24\frac{3}{4}$
   x = $24\frac{3}{4}$ - $14\frac{1}{4}$
   x = 10½
5. 25 + 32 + x = 75
   x = 75 - 57
   x = 18
6. 4 + 8 + x = 18 2/3
   x = 18 2/3 - 12
   x = 6 2/3
7. X + 6 + 4 3/5 = 13
   x = 13 - 10 3/5
   x = 2 2/5
8. 24 + x + 19 = 60
   x + 43 = 60
   x = 60 - 43
   x = 17
9. 92 - 45 + x = 200
   x = 200 - 137
   x = 63
10. X + 236 + 160 = 505
    x = 505 - 396
    x = 109

Section B

(a)	(b)
6 (S) 2 = 3	5 (R) 4 = 20
8 (S) 4 = 2	1/3 ® 9 = 3
3 (R) 2 (S) 4 = 1½	4 (R) 7 (R) 5 = 140

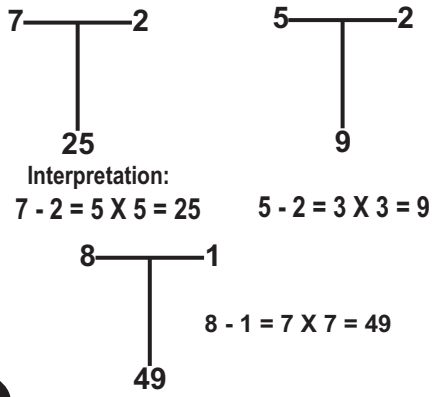
Interpretation

S = ÷ R = X

11. 21 ÷ 7 = 3
12. 13 (R) 2 =
    13 x 2 = 26
    26 (s) 4 = 26 ÷ 4
    = 6½
13. 36 ÷ 18 = 2
14. 7 x 8 ÷ X = 14
    x = 4
15. 3 x 11 x 6 = 198
16. 64 ÷ 4 ÷ x = 8
    x = 16/8
    x = 2
17. 63 ÷ 9 = 7
18. 63 ÷ 3 x X = 9
    21x = 9
    x = 9/21
    x = 3/7
19. 105 ÷ 5 ÷ 3 = 7
20. 96 ÷ 8 x 5 = 60

EXERCISE 14

Section A



Interpretation:

7 - 2 = 5 X 5 = 25

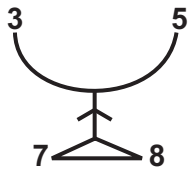
5 - 2 = 3 X 3 = 9

8 - 1 = 7 X 7 = 49

1. 8 - 2 = 6X6 =36
2. (x - 2) X (X - 2) = 169
   $(x - 2)^2 = 169$
   $x - 2 = \sqrt{169} = 13$
   x = 13 + 2
   x = 15
3. (x - 7) x (x - 7) = 16
   $(x - 7)^2 = 16$
   $(x - 7)^2 = 16$
   $X - 7 = \sqrt{16} = 4$
   x = 4 + 7
   x = 11
4. 5 - 1 = 4 x 4 = 16
5. $(9 - x)^2$x (9 - x) = 49
   $(9 - x)^2 = 49$
   $9 - x = \sqrt{49} = 7$
   x = 9 - 7
   x = 2
6. (25 - 26) = -1 x -1 = 1
7. (37 - x) x (37 - x) = 64
   $(37 - x)^2 = 64$
   $(37 - x)^2 = 64$
   $37 - X = \sqrt{64} = 8$
   x = 37 - 8
   x = 29
8. (X - 11) x (x - 11) = 81
   $(x - 11)^2 = 81$
   $(x - 11)^2 = 81$
   $X - 11 = \sqrt{81} = 9$
   x = 9 + 11
   x = 20
9. (39 - x) - (39 - x) = 100
   $(39 - x)^2 = 100$
   $39 - x = \sqrt{100} = 10$
   x = 39 - 10 =29
10. 18 - 7 = 11 x 11 = 121

Section B

(a)



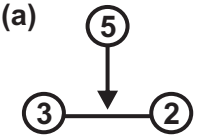
Interpretation
3 x 5 = 15
7 + 8 = 15

11. (2x3) - 3 = 3
12. (25 + 11) ÷4 = 9
13. (5 x 6) - 20 = 10
14. (50 +50) ÷25 = 40
15. (8 x 5) - 10 = 30
16. (9 x 8) - 41 = 31
17. 9 X x = 64 + 35
    9x = 99
    x = 99/9 = 11
18. (2½ x 8) - 14 = 6
19. 51/3 x X = 27 +21
    $\frac{16X}{3} = 48$
    16X = 3 x 48 = 144
    $X = \frac{144}{16} = 9$
20. (30 + 12) ÷7 = 6

EXERCISE 15

Section A

(a)

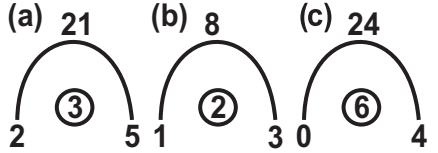


3 x 2 = 6 - 5 = 1

1. (7 x 13) - X = 91
   x = 91 - 91
   x = 0
2. (½ x ½) - 1/6 = 1/12
3. (8 x 3) - 8 = 16
4. 6X - 30 = 6
   6X = 6 + 30
   6X = 36
   X = 36/6
   X = 6

5. (X x 24) - 12 = 0
24x = 12
x = ½
6. (7 x X) -5 = 51
7x = 56
x = 8
7. (5 x 7) - x = 9
35 - x = 9
x = 35 - 9
x = 26
8. (6 x X) - 30 = 14
6x = 44
x = 44/6
x = 7 1/3
9. (4 x 12) - x = 32
48 - x = 32
x = 48 - 32
x = 16
10. (11 x 7) - 61 = 16

Section B

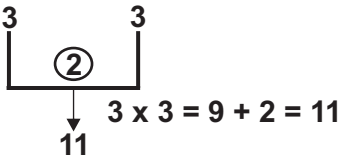


Interpretation
2 + 5 = 7
21÷7 = 3
1 + 3 = 4
8÷4 = 2
0 + 4 = 4
24÷4 = 6

11. 39÷(8 + 5) = 3
12.60÷(x + 3) = 4
$\frac{60}{x + 3} = 4$
60 = 4x + 12
4x = 48
x = 12
13. $\frac{20}{6 + X} = 2$
12 + 2X = 20
2X = 20 - 12
2X = 8
$X = \frac{8}{2} = 4$
14. X÷(3 + 5) = 5
$\frac{x}{(3 + 5)} = 5$
x = 8 x 5
x = 40
15. 69÷(x + 17) = 3
$\frac{69}{x + 17} = 3$
69 = 3x + 51
3x = 69 - 51
x = 18/3
x = 6
16. X÷(15 + 10) = 4
$\frac{x}{15 + 10} = 4$
x = 25 x 4
x = 100
17. 99÷(5 + 4) = 11
18. $\frac{56}{6 + x} = 7$
(6 + x) = 56
6 + x = 56/7 =8
x = 8 - 6 = 2
19. X÷(3 + 2) = 27
$\frac{x}{3 + 2} = 27$
x = 27 (3 + 2) = 27 x 5
x = 135
20. 72÷(x + 5) = 9
$\frac{72}{x + 5} = 9$
72 = 9x + 45
9x = 72 - 45
x = 27/9
x = 3

EXERCISE 16

Section A



3 x 3 = 9 + 2 = 11

1. (5 x 8) + 13 = 53
2. (1/2 x ½) + 1 = 1¼
3. (19 x X) + 19 = 19
   19x = 0
   x = 0/19
   x = 0
4. (0 x ½) + x = ¼
   X = ¼
5. (8 x 13) + x = 121
   x = 121 - 104
   x = 17
6. (7 x X) + 30 = 58
   7x = 58 - 30
   x = 28/7
   x = 4
7. (6 x 7) + 98 = 140
8. (5 x X) + 72 = 127
   5x = 127 - 72
   5x = 55
   x = 55/5
   x = 11
9. (8 x 6) + x = 84
   48 + x = 84
   x = 84 - 48
   x = 36
10. (Xx 1/3) + 84 = 94
    x/3 = 94 - 84
    x/3 = 10
    x = 30

Section A

(a) 1 — d3 = 3 — 0

1 - 0 = 1 x 3 = 3

(c) 5 — d10 = 30 — 2

5 - 2 = 3 x 10 = 30

(b) 3 — d8 = 16 — 1

3 - 1 = 2 x 8 = 16

11. (4 - 2) = 2 x 5 = 10
12 (10 - 7) xX = 24
    3x = 24
    x = 24/3
    x = 8
13. (6 - x) x 10 = 60
    6 - x = 60/10
    x = 6 - 6
    x = 0
14. (x - 5) x 3 = 45
    x - 5 = 45/3
    x = 15 + 5
    x = 20
15. (9 - 9) x 2 = 0
16. (x - 2) x 6 = 24
    x - 2 = 24/6 = 4
    x = 4 + 2
    x = 6
17. (12 - x) x 8 = 72
    $12 - x = \frac{72}{8}$
    12 - x = 9
    12 - 9 = x
    x = 3
18. (15 - 5) xX = 5
    10x = 5
    x = 5/10
    x = ½
19. (10 - 1) x 1/3 = 3
20. (10 - 4) x 5 = 30

EXERCISE 17

Section A

4 — 9 — (36) — 6

4 x 9 = 36

$6^2 = 36$

12½ — 2 — (25) — 5

$\frac{25}{2}$ x 2 = 25

$5^2 = 25$

1 — 9 — (9) — 3

1 x 9 = 9

$3^2 = 9$

1. $X^2 = 144$, $X = \sqrt{144} = 12$
2. $9^2 = 81$
3. $64 \div 16 = 4$
4. $100 \div 5 = 20$
5. $4 \div 8 = ½$
6. $X^2 = 36$, $X = \sqrt{36} = 6$
7. $15^2 = 225$
8. $64 \div 4 = 16$
9. $6^2 = 36$
10. $4^2 = 16$

Section B

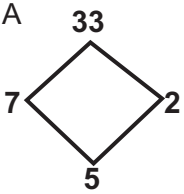
$$\begin{vmatrix} 2 & 3 \\ 4 & 9 \end{vmatrix} = (12, 11)$$

Interpretation
2 + 9 = 11
3 x 4 = 12

11. 1 x 2 = 2, 7 + 9 = 16
(2, 16)
12. X + 6 = 15
x = 15 - 6
x = 9
13. 8 xX = 24
x = 24/8
x = 3
8 + Y = 24
Y = 24 - 8
Y = 16
(3, 16)
14. 12 x = 0, 10 + 9 = 19
(0, 19)
15. 15 + x = 45
x = 45 - 15
x = 30
16. 3 x X = 45
x = 45/3
x = 9
17. Xx 9 = 72
x = 72/9
x = 8
18. Xx 11 = 99 | Y + 9 = 17
x = 99/11 | Y ⊗ = 17 - 9
x = 9, | Y ⊗ = 8
(9,8)
19. 1 2/3 xX = 50
5/3 xX = 50
x = 50 x 3/5
x = 30
20. 15 xX = 35
x = 35/15
x = 7/3

EXERCISE 18

Section A

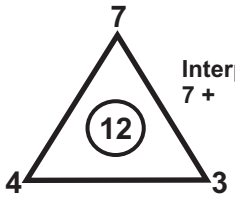


Interpratation
7 x 5 = 35 - 2 = 33

1. (7 x X) - 1 = 41
7x = 41 + 1
x = 42/7
x = 6
2. (11 x 9) - x = 97
x = 99 - 97
x = 2
3. (X x 7) - 2 = 61
7x = 61 + 2
x = 63/7
x = 9
4. (13 x 11) - 2 =141
5. (15 x 9) - x = 129
135 - x = 129
x = 135 - 129
x = 6
6. (8 x X) - 16 = 56
8x = 56 + 16
x = 72/8
x = 9

7. (X x 12) - 40 = 68
12x = 108
x = 108/2
x = 9
8. (1 2/3 x 15) - 7 = 18
9. (1½ x 18) - x =20
27 - x = 20
x = 27 - 20
x = 7
10. (9 x X) - 18 = 81
9x - 18 =81
9x = 81 + 18
9x =99
x = 99/9 = 11

Section B



Interpratation
7 + 4 + 3 = 14 - 2 = 12

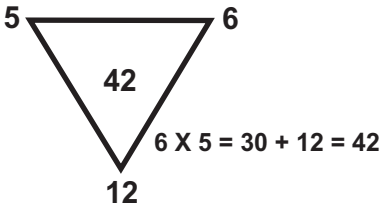
11. (11 + 16 + 32) - 2 = 58
12. (18 + 32 + 11) - 2 = 59
13 (24 + 41 + x) -2 = 78
(65 + x) -2 = 78
x = 78 - 63
x = 15
14. (X + 64 + 25) - 2 = 119
x + 87 = 119
x = 119 - 87 = 32
(70 + 52 + x) - 2 = 142
122 + x = 142 + 2
122 + x = 144
x = 144 - 122
x = 22
16. (21 + 30 + x) - 2 = 82
x = 82 - 49
x = 33
17. (x + 45 + 31) - 2 = 105
x + 76 = 105 + 2
x + 76 = 107
x = 107 - 76
x = 31
18. (x + 10 + 44) - 2 = 92
x + 52 = 92
x = 92 - 52
x = 40
19. (55 + 36 +18) - 2 = 107
20. (86 + 32 + x) - 2 =168
x + 116 = 168
x = 168 - 116
x = 52

EXERCISE 19

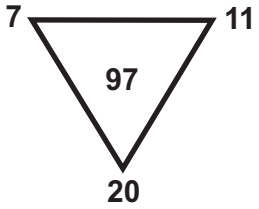
Section A

1. 34621
2. 4217
3. RUSE
4. SEAT
5. 421
6. 217
7. PASTE
8. RAPTURE
9. 624
10. TRAP

Section B



6 X 5 = 30 + 12 = 42



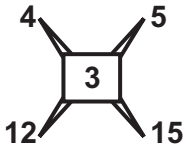
7 X 11 = 77 + 20 = 97

11. 7 X 9 = 63 + 34 = 97
12. (5 X 7) + X = 105
X = 105 - 35
X = 70

13. (8 x X) + 64 = 104
8x = 104 - 64
x = 40/8
x = 5
14. (X x 6) + 16 = 70
6x = 70 - 16
x = 54/6
x = 9
15. (11 x 9) + 14 = 113
16. (13 x 5) + x = 96
x = 96 - 65 = 31
17. (X x 12) + 42 = 138
12x = 138 - 42
x = 96/12
x = 8
18. (15 x X) + 32 = 92
15x = 92 - 32
x = 60/15
x = 4
19. (18 x X) + 5 = 23
18x = 23 - 5
x = 18/18
x = 1
20. (X x 40) + 32 = 32
40x = 32 - 32
40x = 0
x = 0/40
= 0

EXERCISE 20

Section A



12 ÷ 4 = 3, 3 x 5 = 15

1. 28 ÷ 4 = 7
2. 30 ÷ 3 = 10
3. 7 x 5 = 35
4. 42 ÷ 7 = 6
5. 6 x 3 = 18
6. 35 ÷ 5 = 7
7. 120 ÷ 10 = 12
8. 90 ÷ 10 = 9
9. 210 ÷ 30 = 7
10. 39 ÷ 3 = 13

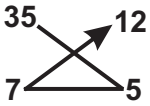
EXERCISE 21

Section A

Interpretation
4 x 6 = 24 - 1 = 23

1. 3 x 7 = 21 - 1 = 20
2. (31 + 1) ÷ 4 = 8
3. (6 x 3) - 1 = 17
4. (53 + 1) ÷ 6 = 9
5. (49 + 1) ÷ 5 = 10
6. (47 + 1) ÷ 4 = 12
7. (6 x 12) - 1 = 71
8. (62 + 1) ÷ 9 = 7
9. (17 + 1) ÷ 2/3 = 27
10. 2/5 x 20) - 1 = 7

Section B



Interpretation
35 ÷ 7 = 5
7 + 5 = 12

11. 63 ÷ 9 = 7
12. 10 - 7 = 3
13. x ÷ 4 = 8

$$\frac{x}{4} = \frac{8}{1}$$

x = 4 x 8 = 32

14. 13 + 5 = 18
15. 25 1/10 - 1/10 = 25
16. 5½ ÷ x = 4

$$\frac{11}{2} \times \frac{1}{x} = \frac{4}{1}$$

$$\frac{11}{2x} = \frac{4}{1}$$

2x x 4 = 11
8x = 11
x = $\frac{11}{8}$ = $1\frac{3}{8}$

17. $108 \div 9 = 12$
18 $12 \times 6 = 72$
19. $16 - 11 = 5$
20. $7 + 6 = 13$

EXERCISE 22

Section A

3 (s) 2 = $\frac{3 \times 2}{3 - 2} = 6$

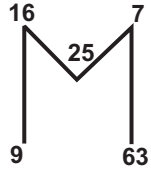
6 (d) 2 = $\frac{6 \div 2}{6 + 2} = \frac{3}{8}$

3 (s) 2 (d) 2 = $\frac{3 \times 2}{3 - 2} = \frac{6 \div 2}{6 + 2} = \frac{3}{8}$

1. $\frac{6 \times 3}{6 - 3} = \frac{18}{3} = 6$
2. $\frac{8 \times 2}{8 - 2} = \frac{16}{6} = \frac{8}{3} = 2\ 2/3$
3. $\frac{10 \div 5}{10 + 5} = \frac{2}{15}$
4. $\frac{8 \div 2}{8 + 2} = \frac{4}{10} = \frac{2}{5}$
5. $\frac{24 \times 6}{24 - 6} = \frac{144}{18} = \frac{72}{9} = 8$
6. $\frac{4 \times 3}{4 - 3} = \frac{12}{1} = 12$
7. $\frac{12 \div 4}{12 + 4} = \frac{3}{16}$
8. $\frac{42 \div 6}{42 + 6} = \frac{7}{48}$
9. $\frac{7 \times 3}{7 \times 3} = \frac{21}{4} = 5\frac{1}{4}$
10. $\frac{5 \times 5}{5 - 3} = \frac{15}{2} = 7\frac{1}{2}$
11. $\frac{4 - 3}{4 + 3} = \frac{4 \times 2}{2} = 4$
    $\frac{4 \div 3}{4 + 3} = \frac{4}{3} \div 7 = \frac{4}{3} \times \frac{1}{7} = \frac{4}{21}$
12. $\frac{4 \times 3}{4 - 3} = \frac{4 \times 3}{1} = 12$
    $\frac{12 \div 2}{12 + 2} = \frac{6}{14} = \frac{2}{7}$
13. $\frac{3 \times 2}{3 - 1} = \frac{6}{1} = 6$
    $\frac{6 \div 2}{6 + 2} = \frac{3}{8}$
14. $\frac{5 \times 4}{5 - 4} = \frac{20}{1} = 20$
    $\frac{20 \div 3}{20 + 3} = \frac{20}{3} \div 23$
    $\frac{20}{3} \times \frac{1}{23} = \frac{20}{69}$
15. $\frac{4 \times 3}{4 - 3} = \frac{4 \times 3}{1} = 12$
16. $\frac{7 \times 1}{7 - 1} = \frac{7}{6} = 1\frac{1}{6}$
17. $\frac{3 \times 2}{3 - 2} = \frac{6}{1} = 6$
    $\frac{6 \div 1}{6 + 1} = \frac{6}{7}$
18. $\frac{8 \div 4}{8 + 4} = \frac{2}{12} = \frac{1}{6}$
19. $\frac{6 \times 4}{6 - 4} = \frac{24}{2} = 12$
20. $\frac{6 \times 4}{6 - 4} = \frac{6 \times 4}{2} = 12$
    $\frac{12 \div 3}{12 + 3} = \frac{4}{15}$

EXERCISE 23

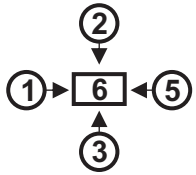
Section A



Interpretation:
16 + 9 = 25
9 x 7 = 63

1. $13 + 6 = 19$
2. $36 - 14 = 22$
3. $56 - 36 = 20$
4. $22 \div 22 = 1$
5. $20 \times 6 = 120$
6. $72 + 16 = 88$
7. $21 \times 7 = 147$
8. $78 - 36 = 42$
9. $96 \div 32 = 3$
10. $39 - 14 = 25$

Section B



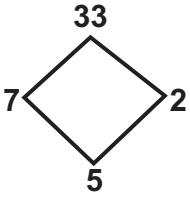
Interpretation:

2 x 3 = 6
1 + 5 = 6

11. 63 - 24 = 39
12. 15 - 2 = 13
13. 6 x 7 = 42
14. 52 ÷ 4 = 13
15 16 - 7 = 9
16. 161 ÷ 7 = 23
17. 96 - 56 = 40
18. 108 - 96 = 12
19. 160 ÷ 8 = 20
20. 105 ÷ 15 = 7
21. 35 - 18 = 17
22. 70 + 95 = 165
23. 99 - 36 = 63
24. 132 ÷ 12 = 11
25. 120 ÷ 8 = 15
26. 110 - 95 = 15

EXERCISE 24

Section A



Interpratation
7 x 5 - 2 = 33

1. (7 x X) - 1 = 41
   7x = 41 + 1
   x = 42/7
   x = 6
2. (11 x 9) -x = 97
   99 - x = 97
   x = 99 - 97
   x = 2
3. (X x 7) - 2 = 61
   7x = 61 + 2
   x = 63/7
   x = 9
4. (13 x 11) - 2 = 141
5. (15 x 9) - x = 129
   135 - x = 129
   x = 135 - 129
   x = 6
6. (9 x 6) - 3 = 51
7. (21 x X) - 32 = 157
   21x = 189
   x = 189/21
   x = 9
8. (12 x 16) - 7 = 113
9. (X x 16) - 9 = 71
   16x - 9 = 71
   16x = 71 + 9
   16x = 80
   x = 80/16
   x = 5
10. (11 x 12) - x = 124
    132 - x = 124
    x = 132 - 124
    x = 8

Section B

2 ∧ 1 = 5
3 ∧ 2 = 8

Interpretation:
2 x 2 + 1 = 5
3 x 2 + 2 = 8

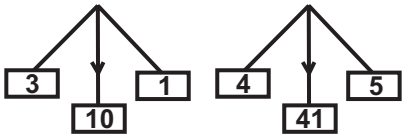
4 ∨ 1 = 1
6 ∨ 3 = 0

Interpretation:
4 ÷ 2 - 1 = 1
6 ÷ 2 + 3 = 0

11. (1 x 1) + 4 = 5
12. (10 ÷ 2) - 5 = 0
13. (12 ÷ 2) - x = 4
    6 - x = 4
    x = 6 - 4 = 2
14. (8 x 2) + 2 = (18 ÷ 2) - 5
    9 - 5 = 4
15. $\frac{(5 \times 2) + 6}{(20 \div 2) - 2} = \frac{16}{8} = 2$
16. $\frac{(5 \times 2) + 5}{(14 \div 2) - 2} = \frac{15}{5} = 3$
17. $\frac{(15 \div 2) - 2}{(25 \times 2) + 5} = \frac{5½}{55}$
    $\frac{11}{2} \times \frac{1}{55} = \frac{1}{10}$
18. $\frac{(14 \times 2) + 4}{(12 \div 2) - 2} = \frac{32}{4} = 8$
19. $\frac{(24 \times 2) + 4}{(3 \div 2) - 2} = \frac{52}{-½}$
    $\frac{52}{1} \times \frac{-2}{1} = -104$
20. $\frac{(16 \times 2) + 2}{(4 \div 2) - 3} = \frac{34}{-1} = -34$

EXERCISE 25

Section A

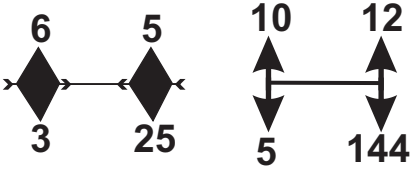


Interpratation:
$3^2 + 1^2 = 9 + 1$
$= 10$

Interpratation:
$4^2 + 5^2 = 16 + 25$
$= 41$

1. $5^2 + 2^2 = 29$
2. $X^2 + 3^2 = 25$
   $x^2 = 25 - 9$
   $x^2 = 16$
   $x = \sqrt{16}$
   $x = 4$
3. $2^2 + 7^2 = 53$
4. $x^2 + 6^2 = 72$
   $x^2 = 72 - 36$
   $x^2 = 36$
   $x = \sqrt{36}$
   $x = 6$
5. $5^2 + x^2 = 50$
   $x^2 = 50 - 25$
   $x^2 = 25$
   $x = \sqrt{25}$
   $x = 5$
6. $X^2 + 5^2 = 29$
   $x^2 = 29 - 25$
   $x = \sqrt{4}$
   $x = 2$
7. $3^2 + x^2 = 45$
   $x^2 = 45 - 9$
   $x^2 = 36$
   $x = \sqrt{36}$
   $x = 6$
8. $X^2 + 7^2 = 85$
   $x^2 = 85 - 49$
   $x^2 = 36$
   $x = \sqrt{36}$
   $x = 6$
9. $5^2 + x^2 = 89$
   $x^2 = 89 - 25$
   $x = \sqrt{64}$
   $x = 8$
10. $9^2 + 7^2 = 130$

Section B



Interpretation:

$3 \times 2 = 6$
$\sqrt{25} = 5$

$5 \times 2 = 10$
$\sqrt{144} = 12$

11. $6^2 = 36$
12. 7 x 2 = 14
13. $\sqrt{64} = 8$
14. $\sqrt{81} = 9$
15. 20 ÷ 2 = 10
16. 32 ÷ 2 = 16
17. $3^2 = 9$
18. 15 x 2 = 30
19. $\sqrt{169} = 13$
20. $15^2 = 225$

EXERCISE 26

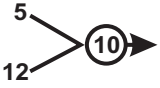
1. 14
2. 12
3. 16
4. Rice
5. Eba and Beans
6. Spaghetti
7. Akpu
8. 20 - 8 = 12
9. 20 - 6 = 14
10. 20 - 20 = 0

EXERCISE 27

1. 3
2. 9
3. 2 + 7 = 9
4. 5
5. 8
6. 4
7. 1
8. 22
9. 20
10. 11

EXERCISE 28

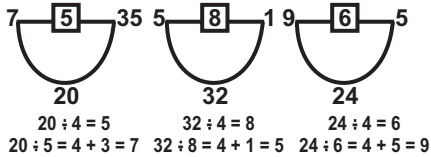
Section A



Interpretation:
10 ÷ 2 = 5
10 + 2 = 12

1. 15 ÷ 5 = 3
2. 40 - 36 = 4
3. 18 + 2 = 20
4. 21 ÷ 7 = 3
5. 63 ÷ 7 = 9
6. 72 ÷ 24 = 3
7. 108 + 6 = 114
8. 14 x 9 = 126
9. 195 - 15 = 180
10. 158 ÷ 28 = 6

Section B



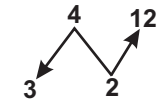
11. (8 ÷ x) + 5 = 9
    8/x = 9 - 5 = 4
    x = 2
12. (x ÷ 9) + 3 = 7
    x/9 = 7 - 3
    x = 9 x 4
    x = 36
13. $\frac{40}{10}$ + x = 11
    x = 11 - $\frac{40}{10}$ = 11 - 4
    x = 7
14. (24 ÷ 6) + 1 = 5
15. (56 ÷ x) + 2 = 6
    56/x = 6 - 2 = 4
    x = 56/4
    x = 14
16. (84 ÷ 21) + x = 8
    x = 8 - 4
    x = 4
17. (156 ÷ 39) + 6 = 10
18. (x ÷ 48) + 11 = 15
    x/48 = 15 - 11 = 4
    x = 48 x 4
    x = 192

19. (60 ÷ x) + 9 = 13
60/x = 13 - 9
60/x = 4
x = 60/4
x = 15

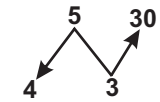
20. (X ÷ 18) + 13 = 17
x/18 = 17 - 13
x/18 = 4
x = 18 x 4
x = 72

EXERCISE 29

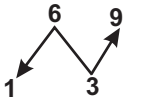
Section A



3 x 4 x 2 = 24 ÷ 2 = 12



4 x 5 x 3 = 60 ÷ 2 = 30



1 x 6 x 3 = 18 ÷ 2 = 9

1. 2 x 5 x 3 = 30 ÷ 2 = 15
2. 5 x 4 x X = 120 x 2
20x = 240
x = 240/20
x = 12
3. X x 7 x 5 = 105 x 2
35x = 210
x = 210/35
x = 6
4. 2 x X x 6 = 180 x 2
12x = 360
x = 360/12
x = 30
5. 4 x 6 x 5 = 120 ÷ 2 = 60
6. 7 x 6 x X = 168 x 2
42x = 336
x = 336/42
x = 8
7. X x 5 x 3 = 90 x 2
15x = 180
x = 180/15
x = 12
8. 9 x X x 5 = 180 x 2
45x = 360
x = 360/45
x = 8
9. 3 x X x 2 = 54 x 2
6x = 108
x = 108/6
x = 18
10. 8 x 5 x 7 = 280 ÷ 2 = 140

Section B

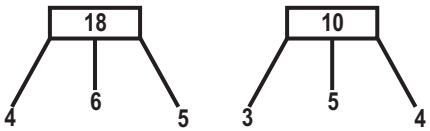
Interpretation:
4 x 6 = 24 - 2 = 22
7 + 8 = 15 - 2 = 13

11. 6 x 5 = 30 - 2 = 28
12. 3 x X = 19 + 2
3x = 21
x = 21/3
x = 7
13. 6 x X - 2 = 46
6x = 46 + 2
x = 48/6 = 8
14. 9 + 7 - 2 = 16 - 2 = 14
15. 8 + x - 2 = 18
6 + x = 18
x = 18 - 6
x = 12
16. 12 + x - 2 = 26
10 + x = 26
x = 26 - 10
x = 16
17. 15 + 17 - 2 = 30

18. 6 + x - 2 = 23
6 + x = 25
x = 25 - 6
x = 19
19. X x 9 = 124 + 2
9x = 126
x = 126/9
x = 14
20. 15 x 12 = 180 - 2 = 178

EXERCISE 30

Section A



Interpretation:
4 x 5 = 20 - 2 = 18
4 + 2 = 6
5 - 1 = 4

3 x 4 = 12 - 2 = 10
3 + 2 = 5
4 - 1 = 3

1. 7 x 8 = 56 - 2 = 54
2. 7 - 2 = 5
3. 9 + 1 = 10
4. 40 + 2 = 42÷6 = 7
5. 4 + 2 = 6÷3 = 2
6. 12 - 2 = 10
7. 11 - 1 = 10
8. 14 + 2 = 16
9. 180 + 2 = 182÷14 = 13
10. 12 x 13 = 156 - 2 = 154

Section B

Z_1 = 1 = 1

Z_2 = 1 x 2 = 2

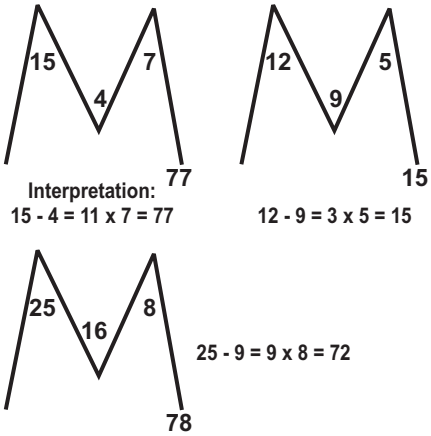
Z_3 = 1 x 2 x 3 = 6

11. 6 - 2 = 4
12. 24 + 6 = 30
13 5
14. $\frac{720}{120} = 6$

15. 120 - 24 = 96
16. $(24 - 6)^2 = 324$
17. $\frac{120 - 24}{4} = \frac{96}{4} = 24$
18. 120 + 2 - 24 = 98
19. $\frac{2}{6} - \frac{1}{6} = \frac{1}{6}$
20. 6/2 = 3

EXERCISE 31

Section A



Interpretation:
15 - 4 = 11 x 7 = 77

12 - 9 = 3 x 5 = 15

25 - 9 = 9 x 8 = 72

1. 10 - 5 = 5 x 6 = 30
2. 20 - 7 = 13 x 9 = 117
3. (15 - 4) x X = 99
11x = 99
x = 99/11
x = 9
4. (18 - x) x 7 = 112
18 - x = 112/7
x = 18 - 16
x = 2
5. (x - 15) = 120/12
x - 15 = 120/12
x = 10 + 15
x = 25
6. (12 - 4) x X = 48
8x = 48
x = 48 /8
x = 6

7. (6 - x) x 14 = 70
   6 - x = 70 ÷ 14 = 15
   x = 6 - 5
   x = 1
8. (9 - 3) x 9 = 54
9. (x - 6) = 108/9
   x - 6 = 108/9 = 12
   x = 12 + 6
   x = 18
10. (14 - 7) x X = 84
   7x = 84
   x = 84/7
   x = 84/7
   x = 12

Section B

11. NATION
12. 487214
13. ROOM
14. 29441
15. 192
16. MAT
17. 7194
18. FAINT
19. 716
20. 712

EXERCISE 32

Section A

Interpretation:
4 X 4 + 8 = 24

1. (3 x 3) + x = 49
   x = 49 - 9
   x = 40
2. (11 x 4) + x = 65
   x = 65 - 44
   x = 21
3. (8 x ¼) + 0 = 2
4. (X x 5) + 12 = 42
   5x = 42 - 12
   x = 30/5
   x = 6
5. (7 x X) + 16 = 72
   7x = 72 - 16 = 56
   x = 56/7
   x = 8
6. (4 x 8) + x = 60
   x = 60 - 32
   x = 28
7. (1 x 1) + x = $\frac{3}{2}$
   x = $\frac{3}{2}$ - 1
   x = ½
8. (25 x $\frac{2}{5}$) + 16 = 26
9. (6 x 4) + 5 = 29
10. (94 x X) + 18 = 300
   94x = 300 - 18
   x = 282/94
   x = 3

Section B

6P2 = 2 $\quad\quad$ **4P3 = 7**

$\frac{6+2}{6-2} = \frac{8}{4} = 2$ $\quad\quad$ $\frac{4+3}{4-3} = \frac{7}{1} = 7$

6P3 = 3

$\frac{6+3}{6-3} = \frac{9}{3} = 3$

11. $\frac{5+4}{5-4} = \frac{9}{1} = 9$
12. $\frac{8+2}{8-2} = \frac{10}{6} = \frac{5}{3} = 1\frac{2}{3}$
13. $\frac{10+5}{10-5} = \frac{15}{5} = 3$
14. $\frac{12+4}{12-4} = \frac{16}{8} = 2$
15. $\frac{15+7}{15-7} = \frac{22}{8} = \frac{11}{4} = 2\frac{3}{4}$
16. $\frac{1½+½}{1½+½} = \frac{2}{1} = 2$

17. $\frac{1\frac{2}{3} + \frac{2}{3}}{1\frac{2}{3} + \frac{2}{3}} = 2\frac{1}{3}$

18. $\frac{x + 3}{x - 3} = \frac{10}{7}$

$7x + 21 = 10x - 30$

$3x = 51$

$x = 51/3$

$x = 17$

19. $\frac{21 + x}{21 - x} = \frac{11}{10}$

$210 + 10x = 231 - 11x$

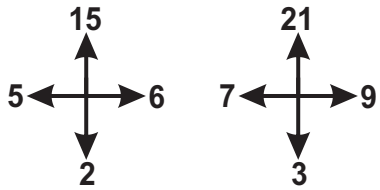
$21x = 21$

$x = 1$

20. $\frac{25 + 4}{25 - 4} = \frac{29}{21} = 1\frac{8}{21}$

EXERCISE 33

Section A



6 x 5 = 30 ÷ 2 = 15 **7 x 9 = 63 ÷ 3 = 21**

1. $(5 \times 7) \div 3 = \frac{35}{3} = 11\frac{2}{3}$
2. $(6 \times X) \div 3 = 10$

$6x = 30$

$x = 30/6$

$x = 5$

3. $(X \times 9) \div 3 = 15$

$9x = 15 \times 3 = 45$

$x = 45/9$

$x = 5$

4. $(8 \times 9) \div 4 = 18$
5. $(X \times 7) \div 4 = 21$

$7x = 21 \times 4 = 84$

$x = 84/7$

$x = 12$

6. $(9 \times X) \div 3 = 21$

$9x = 21 \times 3 = 63$

$x = 63/9$

$x = 7$

7. $(12 \times 9) \div 6 = 18$
8. $(2 \times 8) \div 5 = 32$

$8x = 32 \times 5$

$x = 160/8$

$x = 20$

9. $(8 \times X) \div 2/3 = 72$

$8x = 72 \times 2/3$

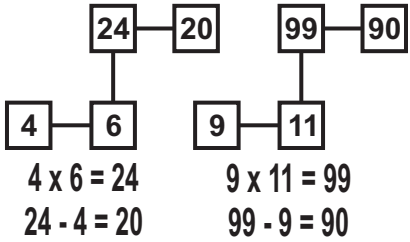
$8x = 48$

$x = 48/8$

$x = 6$

10. $\frac{15 \times 9}{5} = \frac{135}{5} = 27$

Section B



11. 27 - 3 = 24
12. 90 + 5 = 95
13. 72 ÷ 6 = 12
14. 44 ÷ 11 = 4
15. 33 + 3 = 36
16. 84 ÷ 7 = 12
17. 96 - 8 = 78
18. 135 ÷ 15 = 9
19. 64 ÷ 4 = 16
20. 3 x 30 = 90

REVISION 1

1. 23
2. 11
3. 17
4. 3/2
5. 33

6. 200
7. 105
8. 90

REVISION 2

1. 40
2. 8
3. 25
4. 15
5. 5
6. 3
7. 60
8. 4

REVISION 3

1. 15
2. 30
3. 3
4. 7
5. 48
6. 4
7. $8\frac{5}{13}$
8. 0
9. 25
10. 3.5

REVISION 4

1. 0
2. 1/12
3. 8
4. 26
5. 10
6. 8
7. 6
8. 3

REVISION 5

1. 2, 16
2. 9
3. 9

4. 8
5. 34621
6. 4217
7. RUSE
8. SEAT

4. - ½
5. $11\frac{2}{3}$
6. 5
7. 7
8. 18

REVISION 6

1. 7
2. 10
3. 7
4. 12
5. 19
6. 22
7. 88
8. 147

REVISION 7

1. 3
2. 4
3. 3
4. 114
5. 15
6. 12
7. 8
8. 12

REVISION 8

1. 54
2. 5
3. 10
4. 10
5. 30
6. 117
7. 6
8. 1

REVISION 9

1. 40
2. 21
3. 28