BROAD HORIZON
TUITION CENTRE

# 11+ Tuition – Year 4

## Week 11

### Revision Lesson

# ANSWERS

# Contents

# Maths

## Multiplying and Dividing Numbers by 10, 100 and 100

5 x 10 = **50**

6 x 100 = **600**

7 ÷ 10 = **0.7**

4 x 10 = **40**

70 ÷ 100 = **0.7**

6 x 10 = **60**

2 x 100 = **200**

28 ÷ 10 = **2.8**

5 ÷ 10 = **0.5**

8 ÷ 10 = **0.8**

7 x 100 = **700**

8 x 10 = **80**

3 x 100 = **300**

2 ÷ 10 = **0.2**

80 ÷ 100 = **0.8**

9 x 10 = **90**

Fill in the missing numbers:

7 x **100** = 700

30 ÷ **100** = 0.3

64 ÷ **10** = 6.4

3 x **10** = 30

Fill in the space with either x or ÷ so that the calculation is correct:

62 ÷ 10 = 6.2

5 **x** 100 = 500

4 **x** 10 = 40

40 ÷ 100 = 0.4

True (**T**) or False (**F**):

7 x 100 = 70 [F]

30 ÷ 100 = 0.3 [T]

79 ÷ 10 = 790 [F]

1 x 10 = 10 [T]

874 x 10 = **8740**

275 x 100 = **27 500**

3873 ÷ 10 = **387.3**

673 x 10 = **6730**

3802 ÷ 100 = **38.02**

204 x 10 = **2040**

309 x 100 = **30 900**

3002 ÷ 10 = **300.2**

4000 ÷ 100 = **40**

2264 ÷ 10 = **226.4**

765 ÷ 10 = **76.5**

817 x 100 = **81 700**

734 x 10 = **7340**

403 x 100 = **40 300**

1864 ÷ 10 = **186.4**

3908 ÷ 100 = **39.08**

8764 x 10 = **87 640**

201 x 100 = **20 100**

Fill in the missing numbers:

467 x **10** = 4670

536 ÷ **100** = 5.36

683 ÷ **10** = 68.3

855 x **100** = 85 500

Fill in the space with either x or ÷ so that the calculation is correct:

742 ÷ 10 = 74.2

873 ÷ 100 = 8.73

4230 **x** 10 = 42 300

767 **x** 10 = 7670

True (**T**) or False (**F**):

287 x 100 = 28 700 [T]

176 ÷ 100 = 600 [F]

209 ÷ 10 = 2.09 [F]

602 x 10 = 6200 [F]

| | x 10 | x 100 | x 1000 |
|---|---|---|---|
| 4.02 | 40.2 | 402 | 4020 |
| 0.045 | 0.45 | 4.5 | 45 |
| 34.094 | 340.94 | 3409.4 | 34 094 |
| 209.817 | 2098.17 | 20 981.7 | 209 817 |
| 0.006 | 0.06 | 0.6 | 6 |

Divide the following numbers by 10, 100 and 1000 to complete the table, giving answers to 3 decimal places.

| | ÷ 10 | ÷ 100 | ÷ 1000 |
|---|---|---|---|
| 56.9 | 5.69 | 0.569 | 0.057 |
| 209 | 20.9 | 2.09 | 0.209 |
| 4.56 | 0.456 | 0.046 | 0.005 |
| 709.6 | 70.96 | 7.096 | 0.710 |
| 0.072 | 0.007 | 0.001 | 0.000 |

Complete the following table, giving answers to 3 decimal places.

| | x 1000 | x 10 | ÷ 100 |
|---|---|---|---|
| 607 | 607 000 | 6070 | 6.07 |
| 4 901 | 4 901 000 | 49 010 | 49.01 |
| 0.08 | 80 | 0.8 | 0.001 |
| 17.809 | 17 809 | 178.09 | 0.178 |
| 37 | 37 000 | 370 | 0.37 |

## Column Multiplication

| | | | |
|---|---|---|---|
| 2276 x 852 = 1939152 | 1934 x 948 = 1833432 | 2196 x 189 = 415044 | 1911 x 928 = 1773408 |
| 2404 x 906 = 2178024 | 1321 x 150 = 198150 | 1688 x 689 = 1163032 | 2105 x 353 = 743065 |
| 1240 x 449 = 556760 | 1858 x 627 = 1164966 | 1463 x 448 = 655424 | 2102 x 383 = 805066 |

| | | | |
|---|---|---|---|
| 1172 x 364 = 426608 | 1236 x 716 = 884976 | 1749 x 183 = 320067 | 1903 x 415 = 789745 |
| 1619 x 389 = 629791 | 1210 x 754 = 912340 | 1928 x 108 = 208224 | 1806 x 354 = 639324 |
| 1567 x 528 = 827376 | 1530 x 734 = 1123020 | 2330 x 956 = 2227480 | 1181 x 266 = 314146 |

**Division**

| | | | |
|---|---|---|---|
| $4\overline{)1470}$ = 367 r 2 | $6\overline{)3432}$ = 572 | $2\overline{)1593}$ = 796 r 1 | $2\overline{)350}$ = 175 |
| $5\overline{)4610}$ = 922 | $2\overline{)1736}$ = 868 | $3\overline{)2323}$ = 774 r 1 | $4\overline{)621}$ = 155 r 1 |
| $5\overline{)4790}$ = 958 | $7\overline{)4721}$ = 674 r 3 | $4\overline{)1064}$ = 266 | $8\overline{)4041}$ = 505 r 1 |
| $3\overline{)1306}$ = 435 r 1 | $3\overline{)2202}$ = 734 | $8\overline{)5472}$ = 684 | $6\overline{)3377}$ = 562 r 5 |
| $7\overline{)1652}$ = 236 | $5\overline{)1584}$ = 316 r 4 | $8\overline{)6223}$ = 777 r 7 | $9\overline{)7974}$ = 886 |
| $6\overline{)3774}$ = 629 | $9\overline{)6354}$ = 706 | $9\overline{)6411}$ = 712 r 3 | $7\overline{)6355}$ = 907 r 6 |

| | | | |
|---|---|---|---|
| $8\overline{)3640}$ = 455 | $6\overline{)1161}$ = 193 r 3 | $3\overline{)2478}$ = 826 | $6\overline{)4662}$ = 777 |
| $7\overline{)3413}$ = 487 r 4 | $8\overline{)2323}$ = 290 r 3 | $4\overline{)1415}$ = 353 r 3 | $9\overline{)5661}$ = 629 |
| $3\overline{)973}$ = 324 r 1 | $2\overline{)1128}$ = 564 | $9\overline{)5005}$ = 556 r 1 | $2\overline{)798}$ = 399 |
| $9\overline{)2086}$ = 231 r 7 | $4\overline{)621}$ = 155 r 1 | $5\overline{)3446}$ = 689 r 1 | $5\overline{)3463}$ = 692 r 3 |
| $7\overline{)6636}$ = 948 | $7\overline{)5369}$ = 767 | $2\overline{)348}$ = 174 | $6\overline{)1410}$ = 235 |
| $5\overline{)4048}$ = 809 r 3 | $3\overline{)955}$ = 318 r 1 | $4\overline{)868}$ = 217 | $8\overline{)1568}$ = 196 |

| | | | |
|---|---|---|---|
| $8\overline{)1512}$ = 189 | $2\overline{)348}$ = 174 | $6\overline{)2443}$ = 407 r 1 | $3\overline{)2614}$ = 871 r 1 |
| $7\overline{)3969}$ = 567 | $8\overline{)4212}$ = 526 r 4 | $5\overline{)1806}$ = 361 r 1 | $6\overline{)4628}$ = 771 r 2 |
| $7\overline{)2864}$ = 409 r 1 | $2\overline{)1491}$ = 745 r 1 | $7\overline{)6778}$ = 968 r 2 | $5\overline{)2152}$ = 430 r 2 |
| $2\overline{)1954}$ = 977 | $9\overline{)5409}$ = 601 | $9\overline{)7695}$ = 855 | $4\overline{)2575}$ = 643 r 3 |
| $4\overline{)2660}$ = 665 | $9\overline{)3090}$ = 343 r 3 | $4\overline{)1292}$ = 323 | $3\overline{)1005}$ = 335 |
| $3\overline{)1896}$ = 632 | $8\overline{)1666}$ = 208 r 2 | $6\overline{)5856}$ = 976 | $5\overline{)1215}$ = 243 |

## Rounding

**Round each number to the nearest ten.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) | 46 | 50 | 6 ) | 44 | 40 |
| 2 ) | 42 | 40 | 7 ) | 42 | 40 |
| 3 ) | 64 | 60 | 8 ) | 18 | 20 |
| 4 ) | 12 | 10 | 9 ) | 11 | 10 |
| 5 ) | 27 | 30 | 10 ) | 85 | 90 |

**Round each number to the nearest ten.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) | 629 | 630 | 6 ) | 619 | 620 |
| 2 ) | 569 | 570 | 7 ) | 727 | 730 |
| 3 ) | 311 | 310 | 8 ) | 187 | 190 |
| 4 ) | 221 | 220 | 9 ) | 393 | 390 |
| 5 ) | 561 | 560 | 10 ) | 553 | 550 |

**Round each number to the nearest hundred.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) | 131 | 100 | 6 ) | 599 | 600 |
| 2 ) | 591 | 600 | 7 ) | 717 | 700 |
| 3 ) | 133 | 100 | 8 ) | 911 | 900 |
| 4 ) | 725 | 700 | 9 ) | 758 | 800 |
| 5 ) | 629 | 600 | 10 ) | 754 | 800 |

**Round each number to the nearest hundred.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) | 4,181 | 4,200 | 6 ) | 4,715 | 4,700 |
| 2 ) | 1,481 | 1,500 | 7 ) | 2,459 | 2,500 |
| 3 ) | 3,635 | 3,600 | 8 ) | 9,729 | 9,700 |
| 4 ) | 2,857 | 2,900 | 9 ) | 6,415 | 6,400 |
| 5 ) | 3,441 | 3,400 | 10 ) | 6,211 | 6,200 |

**Round each number to the nearest thousand.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) | 5,883 | 6,000 | 6 ) | 4,744 | 5,000 |
| 2 ) | 2,427 | 2,000 | 7 ) | 8,638 | 9,000 |
| 3 ) | 4,973 | 5,000 | 8 ) | 8,592 | 9,000 |
| 4 ) | 4,132 | 4,000 | 9 ) | 4,373 | 4,000 |
| 5 ) | 1,448 | 1,000 | 10 ) | 2,952 | 3,000 |

**Round each number to the nearest thousand.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) | 28,185 | 28,000 | 6 ) | 94,348 | 94,000 |
| 2 ) | 61,435 | 61,000 | 7 ) | 62,957 | 63,000 |
| 3 ) | 45,998 | 46,000 | 8 ) | 75,792 | 76,000 |
| 4 ) | 99,673 | 100,000 | 9 ) | 12,668 | 13,000 |
| 5 ) | 55,858 | 56,000 | 10 ) | 47,985 | 48,000 |

**Round to the nearest hundred above and below, and circle the rounded number that is closest to the given number.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 ) | 600 | 648 | 700 | 6 ) | 700 | 796 | 800 |
| 2 ) | 300 | 387 | 400 | 7 ) | 300 | 378 | 400 |
| 3 ) | 500 | 567 | 600 | 8 ) | 600 | 663 | 700 |
| 4 ) | 600 | 617 | 700 | 9 ) | 400 | 466 | 500 |
| 5 ) | 300 | 322 | 400 | 10 ) | 100 | 119 | 200 |

**Round to the nearest hundred above and below, and circle the rounded number that is closest to the given number.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 ) | 4,700 | 4,724 | 4,800 | 6 ) | 4,200 | 4,213 | 4,300 |
| 2 ) | 8,500 | 8,563 | 8,600 | 7 ) | 2,600 | 2,672 | 2,700 |
| 3 ) | 8,600 | 8,688 | 8,700 | 8 ) | 1,200 | 1,255 | 1,300 |
| 4 ) | 7,200 | 7,255 | 7,300 | 9 ) | 5,500 | 5,519 | 5,600 |
| 5 ) | 2,500 | 2,582 | 2,600 | 10 ) | 7,400 | 7,413 | 7,500 |

**Round to the nearest hundred above and below, and circle the rounded number that is closest to the given number.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 ) | 100 | 134 | 200 | 6 ) | 400 | 474 | 500 |
| 2 ) | 300 | 339 | 400 | 7 ) | 800 | 878 | 900 |
| 3 ) | 300 | 395 | 400 | 8 ) | 200 | 233 | 300 |
| 4 ) | 100 | 149 | 200 | 9 ) | 200 | 222 | 300 |
| 5 ) | 500 | 576 | 600 | 10 ) | 500 | 516 | 600 |

**Round to the nearest hundred above and below, and circle the rounded number that is closest to the given number.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 ) | 4,800 | 4,833 | 4,900 | 6 ) | 2,900 | 2,926 | 3,000 |
| 2 ) | 6,300 | 6,357 | 6,400 | 7 ) | 2,300 | 2,346 | 2,400 |
| 3 ) | 7,600 | 7,662 | 7,700 | 8 ) | 3,400 | 3,421 | 3,500 |
| 4 ) | 7,600 | 7,613 | 7,700 | 9 ) | 5,500 | 5,546 | 5,600 |
| 5 ) | 9,600 | 9,626 | 9,700 | 10 ) | 2,200 | 2,223 | 2,300 |

**Round to the nearest thousand above and below, and circle the rounded number that is closest to the given number.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 ) | 3,000 | 3,688 | 4,000 | 6 ) | 5,000 | 5,928 | 6,000 |
| 2 ) | 5,000 | 5,857 | 6,000 | 7 ) | 9,000 | 9,891 | 10,000 |
| 3 ) | 1,000 | 1,164 | 2,000 | 8 ) | 4,000 | 4,539 | 5,000 |
| 4 ) | 6,000 | 6,858 | 7,000 | 9 ) | 4,000 | 4,278 | 5,000 |
| 5 ) | 6,000 | 6,219 | 7,000 | 10 ) | 8,000 | 8,894 | 9,000 |

**Round to the nearest thousand above and below, and circle the rounded number that is closest to the given number.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 ) | 21,000 | 21,441 | 22,000 | 6 ) | 41,000 | 41,185 | 42,000 |
| 2 ) | 16,000 | 16,314 | 17,000 | 7 ) | 97,000 | 97,434 | 98,000 |
| 3 ) | 95,000 | 95,475 | 96,000 | 8 ) | 61,000 | 61,248 | 62,000 |
| 4 ) | 74,000 | 74,345 | 75,000 | 9 ) | 82,000 | 82,585 | 83,000 |
| 5 ) | 53,000 | 53,116 | 54,000 | 10 ) | 19,000 | 19,645 | 20,000 |

| | | | | | |
|---|---|---|---|---|---|
| 1 ) £ | 51.73 | £ 52.00 | 6 ) £ | 92.84 | £ 93.00 |
| 2 ) £ | 96.15 | £ 96.00 | 7 ) £ | 44.12 | £ 44.00 |
| 3 ) £ | 57.74 | £ 58.00 | 8 ) £ | 92.32 | £ 92.00 |
| 4 ) £ | 25.56 | £ 26.00 | 9 ) £ | 73.54 | £ 74.00 |
| 5 ) £ | 86.47 | £ 86.00 | 10 ) £ | 57.32 | £ 57.00 |

**Round each number to the nearest one.**

| | | | | | |
|---|---|---|---|---|---|
| 1 ) £ | 845.51 | £ 846.00 | 6 ) £ | 692.28 | £ 692.00 |
| 2 ) £ | 731.39 | £ 731.00 | 7 ) £ | 713.13 | £ 713.00 |
| 3 ) £ | 795.42 | £ 795.00 | 8 ) £ | 334.19 | £ 334.00 |
| 4 ) £ | 639.16 | £ 639.00 | 9 ) £ | 835.19 | £ 835.00 |
| 5 ) £ | 746.88 | £ 747.00 | 10 ) £ | 365.11 | £ 365.00 |

1 ) 2.7515 2.752

2 ) 5.7867 5.787

3 ) 3.3483 3.348

4 ) 1.7119 1.712

5 ) 4.8664 4.866

6 ) 3.3217 3.322

7 ) 6.5286 6.529

8 ) 7.5472 7.547

9 ) 5.1292 5.129

10 ) 8.3643 8.364

**Round each number to the nearest thousandth.**

1 ) 3.62115 3.621

2 ) 6.45542 6.455

3 ) 1.85882 1.859

4 ) 7.47617 7.476

5 ) 5.17591 5.176

6 ) 1.32866 1.329

7 ) 1.46265 1.463

8 ) 3.53966 3.540

9 ) 3.81291 3.813

10 ) 8.39755 8.398

**Round each number to the nearest thousandth.**

1 ) 7.9129 7.913

2 ) 2.5176 2.518

3 ) 6.3132 6.313

4 ) 6.1452 6.145

5 ) 5.8887 5.889

6 ) 1.2699 1.270

7 ) 4.3116 4.312

8 ) 3.1165 3.117

9 ) 8.1363 8.136

10 ) 3.3969 3.397

**Round each number to the nearest thousandth.**

1 ) 8.57599 8.576

2 ) 8.63669 8.637

3 ) 3.49615 3.496

4 ) 7.34526 7.345

5 ) 3.95735 3.957

6 ) 7.64373 7.644

7 ) 2.45828 2.458

8 ) 8.63258 8.633

9 ) 9.88659 9.887

10 ) 7.38294 7.383

## BIDMAS – Order of Operations

1 ) 10 - 14 ÷ 7 x 8
10 - 2 x 8
10 - 16
-6

2 ) 14 - 4 + 15 x 19
14 - 4 + 285
295

3 ) 20 ÷ 4 x 4 - 2
5 x 4 - 2
20 - 2
18

4 ) 19 + 10 - 5 x 15
19 + 10 - 75
-46

5 ) 10 ÷ 2 - 1 x 6
5 - 1 x 6
5 - 6

6 ) 8 + 2 - 15 ÷ 5
8 + 2 - 3
7

7 ) 9 x 12 - 14 ÷ 2
108 - 14 ÷ 2
108 - 7
101

8 ) 16 ÷ 2 x 9 - 8
8 x 9 - 8
72 - 8
64

9 ) 13 x 16 ÷ 4 + 14
208 ÷ 4 + 14
52 + 14
66

10 ) 12 - 4 x 9 + 7
12 - 36 + 7
-17

1 ) 6 x 15 - 18 ÷ 2
90 - 18 ÷ 2
90 - 9
81

2 ) 16 + 17 - 15 ÷ 5
16 + 17 - 3
30

3 ) 9 - 14 ÷ 2 + 3
9 - 7 + 3
5

4 ) 9 + 18 ÷ 6 x 6
9 + 3 x 6
9 + 18
27

5 ) 18 ÷ 3 x 10 - 9
6 x 10 - 9
60 - 9
51

6 ) 20 ÷ 2 - 1 + 8
10 - 1 + 8
17

7 ) 19 x 14 ÷ 2 + 2
266 ÷ 2 + 2
133 + 2
135

8 ) 6 x 12 ÷ 6 - 5
72 ÷ 6 - 5
12 - 5
7

9 ) 4 - 1 x 20 ÷ 10
4 - 20 ÷ 10
4 - 2
2

10 ) 16 + 4 x 13 - 9
16 + 52 - 9
59

1 ) 2 x ( 5 x 8 + 8 ) - 4
2 x ( 40 + 8 ) - 4
2 x 48 - 4
96 - 4
92

2 ) ( 14 + 31 - 5 ) ÷ 4 + 4
( 45 - 5 ) ÷ 4 + 4
40 ÷ 4 + 4
10 + 4
14

3 ) ( 14 + 5 ) + ( 7 + 18 ÷ 3 )
19 + ( 7 + 6 )
19 + 13
32

4 ) 5 x ( 5 x 9 - 2 ) + 2
5 x ( 45 - 2 ) + 2
5 x 43 + 2
215 + 2
217

5 ) ( 21 - 4 ) x ( 14 + 2 ) + 10
17 x 16 + 10
272 + 10
282

6 ) ( 8 + 22 - 6 ) ÷ ( 9 - 5 )
( 30 - 6 ) ÷ 4
24 ÷ 4
6

7 ) ( 14 + 39 - 5 ) ÷ ( -5 + 7 )
( 53 - 5 ) ÷ 2
48 ÷ 2
24

8 ) ( 8 + 42 - 2 ) ÷ 4 - 5
( 50 - 2 ) ÷ 4 - 5
48 ÷ 4 - 5
12 - 5
7

9 ) ( 15 - 2 ) + ( 12 - 15 ÷ 5 )
13 + ( 12 - 3 )
13 + 9
22

10 ) ( 16 - 4 ) x ( 11 + 4 ) - 5
12 x 15 - 5
180 - 5
175

1 ) $(8 + 3)^2 + (11 - 10 \div 2)$

$(11)^2 + (11 - 5)$

$121 + 6$

$127$

2 ) $8 \times (3 \times 3 - 6^2) - 4$

$8 \times (3 \times 3 - 36) - 4$

$8 \times (9 - 36) - 4$

$8 \times -27 - 4$

$-216 - 4$

$-220$

3 ) $6 \times (11 \times 8 - 7^2) - 2$

$6 \times (11 \times 8 - 49) - 2$

$6 \times (88 - 49) - 2$

$6 \times 39 - 2$

$234 - 2$

$232$

4 ) $(9 + 3)^2 + (12 - 16 \div 4)$

$(12)^2 + (12 - 4)$

$144 + 8$

$152$

5 ) $(12 + 45 - 5^2) \div (-2 + 6)$

$(12 + 45 - 25) \div (-2 + 6)$

$(57 - 25) \div 4$

$32 \div 4$

$8$

6 ) $(12 - 5) \times (11 + 6) + 7^2$

$(12 - 5) \times (11 + 6) + 49$

$7 \times 17 + 49$

$119 + 49$

$168$

7 ) $(17 - 7) \times (14 + 6) - 2^2$

$(17 - 7) \times (14 + 6) - 4$

$10 \times 20 - 4$

$200 - 4$

$196$

8 ) $(10 + 52 - 2) \div 3 + 2^2$

$(10 + 52 - 2) \div 3 + 4$

$(62 - 2) \div 3 + 4$

$60 \div 3 + 4$

$20 + 4$

$24$

9 ) $(14 + 52 - 4^2) \div (4 + 6)$

$(14 + 52 - 16) \div (4 + 6)$

$(66 - 16) \div 10$

$50 \div 10$

$5$

10 ) $(10 + 28 - 2) \div 2 + 4^2$

$(10 + 28 - 2) \div 2 + 16$

$(38 - 2) \div 2 + 16$

$36 \div 2 + 16$

$18 + 16$

$34$

## Mean, Mode, Median and Range

1) 4, 8, 4, 2, 2, 4
2, 2, 4, 4, 4, 8

Mean 4 Median 4 Mode 4 Range 6

2) 8, 7, 3, 3, 3, 6
3, 3, 3, 6, 7, 8

Mean 5 Median 4.5 Mode 3 Range 5

3) 2, 2, 1, 7, 3, 9
1, 2, 2, 3, 7, 9

Mean 4 Median 2.5 Mode 2 Range 8

4) 3, 2, 5, 7, 6, 6, 7, 4
2, 3, 4, 5, 6, 6, 7, 7

Mean 5 Median 5.5 Mode 6, 7 Range 5

5) 6, 4, 9, 9
4, 6, 9, 9

Mean 7 Median 7.5 Mode 9 Range 5

6) 4, 4, 6, 6
4, 4, 6, 6

Mean 5 Median 5 Mode 4, 6 Range 2

7) 5, 4, 7, 4
4, 4, 5, 7

Mean 5 Median 4.5 Mode 4 Range 3

8) 8, 3, 4, 8, 6, 9, 2, 8
2, 3, 4, 6, 8, 8, 8, 9

Mean 6 Median 7 Mode 8 Range 7

9) 3, 9, 2, 3, 5, 8
2, 3, 3, 5, 8, 9

Mean 5 Median 4 Mode 3 Range 7

10) 3, 4, 5, 7, 7, 2, 8, 4
2, 3, 4, 4, 5, 7, 7, 8

Mean 5 Median 4.5 Mode 4, 7 Range 6

1) 9, 4, 7, 4, 6
4, 4, 6, 7, 9

Mean 6 Median 6 Mode 4 Range 5

2) 9, 2, 8, 6, 2, 6, 9
2, 2, 6, 6, 8, 9, 9

Mean 6 Median 6 Mode 2, 6, 9 Range 7

3) 7, 7, 2, 7, 7
2, 7, 7, 7, 7

Mean 6 Median 7 Mode 7 Range 5

4) 5, 4, 6
4, 5, 6

Mean 5 Median 5 Mode None Range 2

5) 9, 8, 10, 2, 6
2, 6, 8, 9, 10

Mean 7 Median 8 Mode None Range 8

6) 1, 2, 9, 8, 4, 9, 2
1, 2, 2, 4, 8, 9, 9

Mean 5 Median 4 Mode 2, 9 Range 8

7) 9, 4, 2
2, 4, 9

Mean 5 Median 4 Mode None Range 7

8) 9, 7, 1, 1, 7
1, 1, 7, 7, 9

Mean 5 Median 7 Mode 1, 7 Range 8

9) 2, 2, 2, 1, 3, 2, 2
1, 2, 2, 2, 2, 2, 3

Mean 2 Median 2 Mode 2 Range 2

10) 5, 6, 2, 4, 9, 4, 5
2, 4, 4, 5, 5, 6, 9

Mean 5 Median 5 Mode 4, 5 Range 7

1) 4, 5, 3
3, 4, 5

Mean 4 Median 4 Mode None Range 2

2) 2, 7, 9
2, 7, 9

Mean 6 Median 7 Mode None Range 7

3) 9, 6, 6
6, 6, 9

Mean 7 Median 6 Mode 6 Range 3

4) 6, 3, 3
3, 3, 6

Mean 4 Median 3 Mode 3 Range 3

5) 6, 5, 7, 5, 7
5, 5, 6, 7, 7

Mean 6 Median 6 Mode 5, 7 Range 2

6) 5, 9, 6, 6, 9
5, 6, 6, 9, 9

Mean 7 Median 6 Mode 6, 9 Range 4

7) 7, 6, 10, 9, 8, 7, 2
2, 6, 7, 7, 8, 9, 10

Mean 7 Median 7 Mode 7 Range 8

8) 5, 3, 7, 6, 4
3, 4, 5, 6, 7

Mean 5 Median 5 Mode None Range 4

9) 6, 6, 2, 7, 6, 4, 4
2, 4, 4, 6, 6, 6, 7

Mean 5 Median 6 Mode 6 Range 5

10) 9, 6, 3, 3, 9
3, 3, 6, 9, 9

Mean 6 Median 6 Mode 3, 9 Range 6

1) 7, 4, 8, 9, 8, 4, 9
4, 4, 7, 8, 8, 9, 9

Mean 7 Median 8 Mode 4, 8, 9 Range 5

2) 7, 10, 5, 9, 3, 8
3, 5, 7, 8, 9, 10

Mean 7 Median 7.5 Mode None Range 7

3) 6, 4, 5, 9, 3, 7, 7, 7, 8, 4
3, 4, 4, 5, 6, 7, 7, 7, 8, 9

Mean 6 Median 6.5 Mode 7 Range 6

4) 4, 5, 2, 4, 7, 5, 7, 2, 9
2, 2, 4, 4, 5, 5, 7, 7, 9

Mean 5 Median 5 Mode 2, 4, 5, 7 Range 7

5) 6, 5, 5, 5, 4, 5
4, 5, 5, 5, 5, 6

Mean 5 Median 5 Mode 5 Range 2

6) 7, 4, 1, 6, 2, 5, 6, 1
1, 1, 2, 4, 5, 6, 6, 7

Mean 4 Median 4.5 Mode 1, 6 Range 6

7) 9, 4, 4, 4, 7, 3, 7, 4, 3, 5
3, 3, 4, 4, 4, 4, 5, 7, 7, 9

Mean 5 Median 4 Mode 4 Range 6

8) 5, 7, 7, 9, 9, 8, 6, 3, 9
3, 5, 6, 7, 7, 8, 9, 9, 9

Mean 7 Median 7 Mode 9 Range 6

9) 7, 5, 2, 5, 2, 2, 5
2, 2, 2, 5, 5, 5, 7

Mean 4 Median 5 Mode 2, 5 Range 5

10) 9, 6, 8, 8, 9
6, 8, 8, 9, 9

Mean 8 Median 8 Mode 8, 9 Range 3

## Elapsed Time

**Elapsed Time: Nearest 5 Minutes** ES2

| Q.No | Start Time | End Time | Elapsed Time |
|---|---|---|---|
| 1) | 3:25 A.M. | 6:45 A.M. | 3 hours and 20 minutes |
| 2) | 11:10 P.M. | Midnight | 50 minutes |
| 3) | 4:35 A.M. | 7:15 A.M. | 2 hours and 40 minutes |
| 4) | 1:45 P.M. | 6:10 P.M. | 4 hours and 25 minutes |
| 5) | 8:20 A.M. | 11:55 A.M. | 3 hours and 35 minutes |
| 6) | 6:35 P.M. | 9:10 P.M. | 2 hours and 35 minutes |
| 7) | 2:25 A.M. | 7:50 A.M. | 5 hours and 25 minutes |
| 8) | 4:40 P.M. | 10:35 P.M. | 5 hours and 55 minutes |
| 9) | 5:50 A.M. | 8:05 A.M. | 2 hours and 15 minutes |
| 10) | 1:15 P.M. | 6:40 P.M. | 5 hours and 25 minutes |
| 11) | 7:10 A.M. | 9:30 A.M. | 2 hours and 20 minutes |
| 12) | 3:30 P.M. | 10:20 P.M. | 6 hours and 50 minutes |
| 13) | 6:25 A.M. | 11:55 A.M. | 5 hours and 30 minutes |
| 14) | 2:40 P.M. | 6:05 P.M. | 3 hours and 25 minutes |
| 15) | 1:55 A.M. | 2:45 A.M. | 50 minutes |

| Q.No | Start Time | End Time | Elapsed Time |
|---|---|---|---|
| 1) | **8:03 A.M.** | 8:00 P.M. | 11 hours and 57 minutes |
| 2) | 7:51 P.M. | **7:03 A.M.** | 11 hours and 12 minutes |
| 3) | **11:14 A.M.** | 6:20 P.M. | 7 hours and 6 minutes |
| 4) | 9:31 P.M. | 3:22 A.M. | **5 hours and 51 minutes** |
| 5) | **6:23 P.M.** | 5:56 A.M. | 11 hours and 33 minutes |
| 6) | 8:07 A.M. | 1:51 P.M. | **5 hours and 44 minutes** |
| 7) | 7:22 P.M. | **11:32 A.M.** | 16 hours and 10 minutes |
| 8) | 11:00 A.M. | **7:34 P.M.** | 8 hours and 34 minutes |
| 9) | **11:56 A.M.** | 5:20 P.M. | 5 hours and 24 minutes |
| 10) | 10:36 P.M. | 1:28 A.M. | **2 hours and 52 minutes** |
| 11) | 7:43 A.M. | **6:09 P.M.** | 10 hours and 26 minutes |
| 12) | NOON | 1:23 A.M. | **13 hours and 23 minutes** |
| 13) | 5:18 A.M. | **3:17 P.M.** | 9 hours and 59 minutes |
| 14) | 8:34 P.M. | 9:17 A.M. | **12 hours and 43 minutes** |
| 15) | **1:49 A.M.** | 4:06 P.M. | 14 hours and 17 minutes |

| Q.No | Start Time | End Time | Elapsed Time |
|---|---|---|---|
| 1) | 4:02 A.M. | 7:23 A.M. | **3 hours and 21 minutes** |
| 2) | 9:32 P.M. | **11:48 P.M.** | 2 hours and 16 minutes |
| 3) | 1:10 A.M. | 9:44 A.M. | **8 hours and 34 minutes** |
| 4) | **5:12 P.M.** | 7:27 P.M. | 2 hours and 15 minutes |
| 5) | 3:18 A.M. | **10:09 A.M.** | 6 hours and 51 minutes |
| 6) | 11:10 P.M. | 11:52 P.M. | **42 minutes** |
| 7) | **2:33 A.M.** | 8:47 A.M. | 6 hours and 14 minutes |
| 8) | 4:54 P.M. | **6:03 P.M.** | 1 hour and 9 minutes |
| 9) | **7:16 A.M.** | 9:28 A.M. | 2 hours and 12 minutes |
| 10) | 5:59 P.M. | 11:04 P.M. | **5 hours and 5 minutes** |
| 11) | 1:08 A.M. | **3:17 A.M.** | 2 hours and 9 minutes |
| 12) | **10:22 P.M.** | Midnight | 1 hour and 38 minutes |
| 13) | 2:45 A.M. | **8:33 A.M.** | 5 hours and 48 minutes |
| 14) | 6:11 P.M. | 10:10 P.M. | **3 hours and 59 minutes** |
| 15) | **2:14 A.M.** | 6:36 A.M. | 4 hours and 22 minutes |

| Q.No | Start Time | End Time | Elapsed Time |
|---|---|---|---|
| 1) | 1:18 A.M. | **3:17 P.M.** | 13 hours and 59 minutes |
| 2) | 5:36 P.M. | 1:28 A.M. | **7 hours and 52 minutes** |
| 3) | **11:56 A.M.** | 3:20 P.M. | 3 hours and 24 minutes |
| 4) | 7:51 P.M. | **6:03 A.M.** | 10 hours and 12 minutes |
| 5) | 1:07 A.M. | 1:51 P.M. | **12 hours and 44 minutes** |
| 6) | **9:23 P.M.** | 5:56 A.M. | 8 hours and 33 minutes |
| 7) | 9:00 A.M. | **5:34 P.M.** | 8 hours and 34 minutes |
| 8) | 3:34 P.M. | 1:17 A.M. | **9 hours and 43 minutes** |
| 9) | **8:49 A.M.** | 4:06 P.M. | 7 hours and 17 minutes |
| 10) | 7:43 A.M. | **10:09 P.M.** | 14 hours and 26 minutes |
| 11) | 6:31 P.M. | 3:22 A.M. | **8 hours and 51 minutes** |
| 12) | **11:14 A.M.** | 6:51 P.M. | 7 hours and 37 minutes |
| 13) | 6:22 P.M. | **11:32 A.M.** | 17 hours and 10 minutes |
| 14) | Noon | 9:23 A.M. | **21 hours and 23 minutes** |
| 15) | **8:03 A.M.** | 5:00 P.M. | 8 hours and 57 minutes |

## Highest/Greatest Common Factor

Find the greatest common factor for each pair of numbers.

1) 36, 84

GCF(36, 84) = **12**

2) 40, 60

GCF(40, 60) = **20**

3) 18, 38

GCF(18, 38) = **2**

4) 72, 96

GCF(72, 96) = **24**

5) 66, 33

GCF(66, 33) = **33**

6) 47, 64

GCF(47, 64) = **1**

7) 55, 88

GCF(55, 88) = **11**

8) 90, 36

GCF(90, 36) = **18**

9) 32, 76

GCF(32, 76) = **4**

10) 21, 49

GCF(21, 49) = **7**

## Lowest Common Multiple

Find the least common multiple for each pair of numbers.

1) 9, 27

Multiples of 9 : **9, 18, 27, 36, 45, 54, 63, 72, 81, 90, . . .**

Multiples of 27 : **27, 54, 81, 108,135, 162, 189, 216, 243, 270, . . .**

LCM(9, 27) = **27**

2) 8, 5

Multiples of 8 : **8, 16, 24, 32, 40, 48, 56, 64, 72, 80, . . .**

Multiples of 5 : **5, 10, 15, 20, 25, 30, 35, 40, 45, 50, . . .**

LCM(8, 5) = **40**

3) 6, 4

Multiples of 6 : **6, 12, 18, 24, 30, 36, 42, 48, 54, 60, . . .**

Multiples of 4 : **4, 8, 12, 16, 20, 24, 28, 32, 36, 40, . . .**

LCM(6, 4) = **12**

4) 66, 22

Multiples of 66 : **66, 132, 198, 264, 330, 396, 462, 528, 594, 660, . . .**

Multiples of 22 : **22, 44, 66, 88, 110, 132, 154, 176, 198, 220, . . .**

LCM(66, 22) = **66**

5) 12, 3

Multiples of 12 : **12, 24, 36, 48, 60, 72, 84, 96, 108, 120, . . .**

Multiples of 3 : **3, 6, 9, 12, 15, 18, 21, 24, 27, 30, . . .**

LCM(12, 3) = **12**

## Verbal Reasoning

**GL Techniques – Types 5- 9**

72. done
73. cane
74. team

1. MOAT
2. LONE
3. SLAP

53. shallow deep
54. absent present
55. answer question

---

45. ram
46. mass
47. rung
48. lad
49. wings

78. PIN EMU APT
79. PAT AGO WET

# Non-Verbal Reasoning

## ASSESSMENT TEST 1

### Section 1 — Complete the Pair

**1.** **D**
*The circle alternates colour between black and white.*

**2.** **B**
*The small shape at the front moves behind the large shape.*

**3.** **D**
*The figure is rotated 90 degrees anticlockwise.*

**4.** **A**
*The two circles move to the right of the shapes and swap shadings.*

**5.** **B**
*The figure rotates 180 degrees and its outline changes.*

**6.** **B**
*The small shape at the front becomes the large shape at the back, and the large shape at the back becomes the small shape at the front.*

**7.** **C**
*Taken together, the bottom two shapes reflect downwards (or the shapes change places and the arrow points in the opposite direction).*

**8.** **C**
*The small white shape rotates 90 degrees clockwise. The large black shape becomes white and the small white shape becomes black.*

### Section 2 — Find the Figure Like the First Two

**1.** **D**
*All figures must have a small white shape on a larger black shape on a large white shape.*

**2.** **C**
*All figures must have a black crescent on a white circle.*

**3.** **B**
*All figures must be made up of straight lines and right angles.*

**4.** **B**
*All figures must have a white four-pointed star inside a black shape.*

**5.** **A**
*All figures must have two shapes which overlap to make a smaller version of the two overlapping shapes.*

**6.** **D**
*All figures must have a large shape below a smaller version of the same shape which has been reflected upwards.*

**7.** **C**
*All figures must have a shape with a thick black outline containing two white triangles and one black triangle.*

**8.** **A**
*All figures must have three arrows, two pointing to the left and one pointing to the right.*

## Section 3 — Complete the Hexagonal Grid

**1. A**

*The shapes are reflected across the middle of the hexagonal grid.*

**2. B**

*Going in a clockwise direction from the top-left hexagon, each outer hexagon gains one extra triangle. Each triangle added is smaller than the previous ones added.*

**3. C**

*Going in a clockwise direction from the top hexagon, each outer hexagon rotates 60 degrees clockwise.*

**4. B**

*Going in a clockwise direction from the bottom-left hexagon, each outer hexagon gains a vertical line to the left of the existing lines. The lines are then spaced equally inside the circle.*

**5. D**

*Going in an anticlockwise direction from the bottom-right hexagon, the square in each outer hexagon increases in size. The outline of the squares alternates between solid and dotted.*

**6. A**

*The shapes are reflected across the middle of the hexagonal grid.*

**7. D**

*Going in an anticlockwise direction from the bottom-left hexagon, the next circle down is shaded grey in each outer hexagon.*

**8. A**

*Each outer hexagon has a black semicircle on the innermost side and a black sector on each of the two middle corners.*

## Section 4 — Rotate the Figure

**1. C**

*The figure is rotated 225 degrees clockwise (or 135 degrees anticlockwise). Option A is a reflected rotation. Options B and D are the wrong shape.*

**2. A**

*The figure is rotated 270 degrees clockwise (or 90 degrees anticlockwise). In options B, C and D, the black shading is the wrong shape.*

**3. A**

*The figure is rotated 135 degrees clockwise. In option B, the white triangle has been shaded grey. In option C, the triangles are positioned incorrectly. Option D is a reflected rotation.*

**4. D**

*The figure is rotated 90 degrees. Options A and C have the wrong number of grey circles. In option B, the circles line up with the sides of the hexagon instead of its corners.*

**5. B**

*The figure is rotated 45 degrees clockwise. In option A, the outline of the rectangle has become dotted and the outlines of the squares have become solid. In option C, the squares are positioned incorrectly. Option D is a reflected rotation.*

**6. C**

*The figure is rotated 180 degrees. Option A is a reflected rotation. Option B is the wrong shape. Option D has the wrong shading.*

**7. D**

*The figure is rotated 180 degrees. Option A doesn't have a line across the circle. Option B is a reflected rotation. Option C only has a semicircle.*

**8. C**

*The figure is rotated 135 degrees clockwise. Option A is a reflected rotation. In option B, the black diamond has become white. In option D, the white diamond has become black.*

**9. A**

*The figure is rotated 225 degrees clockwise (or 135 degrees anticlockwise). Option B is a reflected rotation. In options C and D, the arrowheads are positioned incorrectly.*

**10. B**

*The figure is rotated 270 degrees clockwise (or 90 degrees anticlockwise). Options A and D are the wrong shape. Option C is a downwards reflection.*

## Section 5 — Complete the Series

**1. B**

*In this series, the pattern alternates between a small white circle on top of a large black circle, and a small black circle on top of a large white circle.*

**2. B**

*The arrow rotates 90 degrees anticlockwise in each series square.*

**3. C**

*In each series square, the shape gains an extra side.*

**4. B**

*The squares in this series are in two pairs. In each pair, the large star is removed so only the small star remains.*

**5. B**

*In each series square, the size of the pentagon increases. The pentagons rotate 180 degrees in each series square.*

**6. A**

*In each series square, the shape rotates 45 degrees anticlockwise. Its outline alternates between dashed and solid lines.*

**7. D**

*The different types of shading move clockwise to the next small triangle in each series square.*

**8. C**

*In each series square, the hexagon loses an arrow and gains a circle.*

**9. D**

*In each series square, a quarter of the grey circle is removed and is replaced by a quarter of the hatched circle. (In C, the hatching is going in the wrong direction.)*

**10. C**

*In each series square, the shape rotates 90 degrees anticlockwise and alternates between small and large.*