2.1 Number and Calculation: 2-hour Pack

ISEB CE 13+ Mathematics · Calculator allowed · about 120 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out $8 \times 4 - 10 \times (8 - 4)^2$

- [ ] A) 352
- [ ] B) -128
- [ ] C) 192
- [ ] D) -1408
- [ ] E) -64

---

2 Estimate the value of 610.96×62.47, by rounding each number to 1 significant figure.

- [ ] A) 40000
- [ ] B) 38166.6712
- [ ] C) 37820
- [ ] D) 360000
- [ ] E) 36000

---

3 Work out $-19 + 5 + (-8)$

- [ ] A) -6
- [ ] B) -22
- [ ] C) -32
- [ ] D) 22
- [ ] E) 16

---

4 Write 101732085 as a product of its prime factors, using index notation.

- [ ] A) $3^4 \times 5 \times 7^3 \times 13^3$
- [ ] B) $3^3 \times 5 \times 7^3$
- [ ] C) $3^3 \times 5 \times 7^3 \times 13^3$
- [ ] D) $3^3 \times 5 \times 7^3 \times 13^2$
- [ ] E) $9 \times 5 \times 21 \times 39$

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5 Round 891.636 to 2 decimal places.

- [ ] A) 891.64
- [ ] B) 891.63
- [ ] C) 891.636
- [ ] D) 890
- [ ] E) 891.6

---

6 Work out $4 - 4 \times (9 - 4)$

- [ ] A) 0
- [ ] B) -36
- [ ] C) -48
- [ ] D) -16
- [ ] E) 24

---

7 Estimate the value of 922.3×74.2, by rounding each number to 1 significant figure.

- [ ] A) 6300
- [ ] B) 68434.66
- [ ] C) 630000
- [ ] D) 68080
- [ ] E) 63000

---

8 Find the lowest common multiple of 28 and 63.

- [ ] A) 63
- [ ] B) 91
- [ ] C) 1764
- [ ] D) 252
- [ ] E) 7

---

9 Work out $(-8) \times 6 - 6 \times 4$

- [ ] A) 24
- [ ] B) -72
- [ ] C) -216
- [ ] D) -24
- [ ] E) 72

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10 Write 231 as a product of its prime factors, using index notation.

- [ ] A) $3 \times 7 \times 11$
- [ ] B) $3^2 \times 7 \times 11$
- [ ] C) $3 \times 7^2 \times 11$
- [ ] D) 7×11
- [ ] E) 3×11

---

11 Round 20617 to the nearest 10.

- [ ] A) 20600
- [ ] B) 20610
- [ ] C) 20620
- [ ] D) 20630
- [ ] E) 20617

---

12 Work out $(10 + 11) \times 4 - 1$

- [ ] A) 85
- [ ] B) 83
- [ ] C) 53
- [ ] D) -5
- [ ] E) 63

---

13 Estimate the value of 226.9×28.2, by rounding each number to 1 significant figure.

- [ ] A) 6398.58
- [ ] B) 6401.4
- [ ] C) 6356
- [ ] D) 6000
- [ ] E) 60000

---

14 Find the highest common factor of 20 and 6.

- [ ] A) 2
- [ ] B) 14
- [ ] C) 1
- [ ] D) 60
- [ ] E) 120

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15 Work out -1 - 16 + (-19)

- [ ] A) 36
- [ ] B) -34
- [ ] C) -36
- [ ] D) -4
- [ ] E) 2

---

16 Write 113256 as a product of its prime factors, using index notation.

- [ ] A) $2^3 \times 3^2 \times 11^3 \times 13$
- [ ] B) $2^3 \times 3 \times 11^2 \times 13$
- [ ] C) $2^4 \times 3^2 \times 11^2 \times 13$
- [ ] D) $3^2 \times 11^2 \times 13$
- [ ] E) $2^3 \times 3^2 \times 11^2 \times 13$

---

17 Round 2578.22266 to 2 decimal places.

- [ ] A) 2578.23
- [ ] B) 2578.2
- [ ] C) 2578.21
- [ ] D) 2578.22
- [ ] E) 2600

---

18 Work out 10 - 11 + 10 × 5

- [ ] A) -51
- [ ] B) 45
- [ ] C) 49
- [ ] D) 14
- [ ] E) 71

---

19 Estimate the value of 0.57 × 28, by rounding each number to 1 significant figure.

- [ ] A) 1.8
- [ ] B) 18
- [ ] C) 20
- [ ] D) 28
- [ ] E) 15.96

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20 Find the lowest common multiple of 25 and 55.

- [ ] A) 1375
- [ ] B) 55
- [ ] C) 80
- [ ] D) 550
- [ ] E) 275

---

21 Work out $(-7) \times (-8) - 3 \times (-8)$

- [ ] A) 80
- [ ] B) -424
- [ ] C) 32
- [ ] D) -32
- [ ] E) -80

---

22 Write 4116 as a product of its prime factors, using index notation.

- [ ] A) $2^2 \times 7^3$
- [ ] B) $2^2 \times 3^2 \times 7^3$
- [ ] C) $2 \times 3 \times 7^3$
- [ ] D) $2^2 \times 3 \times 7^3$
- [ ] E) $2^2 \times 3$

---

23 Work out $(12 + 4) \times 5 - 1$

- [ ] A) 64
- [ ] B) 39
- [ ] C) 81
- [ ] D) 31
- [ ] E) 79

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24 Estimate the value of (792.21 + 345.76) × 66.4, by rounding each number to 1 significant figure.

- [ ] A) 770000
- [ ] B) 77000
- [ ] C) 75108
- [ ] D) 75563.2
- [ ] E) 75561.208

---

25 Find the lowest common multiple of 20 and 28.

- [ ] A) 560
- [ ] B) 28
- [ ] C) 140
- [ ] D) 4
- [ ] E) 48

---

26 Work out -14 - 16 - 18

- [ ] A) -12
- [ ] B) -16
- [ ] C) 48
- [ ] D) -48
- [ ] E) -20

---

27 Write 53826500 as a product of its prime factors, using index notation.

- [ ] A) $2^2 \times 5^3 \times 7^2 \times 13^3$
- [ ] B) $2^2 \times 5^4 \times 7^2 \times 13^3$
- [ ] C) $2^2 \times 5^3 \times 7^2 \times 13^2$
- [ ] D) $5^3 \times 7^2 \times 13^3$
- [ ] E) $2 \times 5^3 \times 7^2 \times 13^3$

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28 A cafe's weekly takings are shared between ingredients, wages and profit in the ratio 4 : 5 : 3. In one week the total takings were £2880.

(a) Work out the profit for that week. **(2)**

.....

(b) The following week, takings increase by 12% but the ratio stays the same. Work out the new profit, giving your answer to the nearest penny. **(3)**

.....

---

29 Round 313.42881 to 1 decimal place.

- ☐ A) 313.43
- ☐ B) 313.3
- ☐ C) 313.4
- ☐ D) 300
- ☐ E) 313.5

---

30 Estimate the value of 0.19×80.7, by rounding each number to 1 significant figure.

- ☐ A) 81
- ☐ B) 15.333
- ☐ C) 20
- ☐ D) 15.39
- ☐ E) 16

---

31 Find the lowest common multiple of 42 and 54.

- ☐ A) 6
- ☐ B) 378
- ☐ C) 756
- ☐ D) 54
- ☐ E) 2268

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32 Work out -4 + (-17) - (-7)

- [ ] A) -28
- [ ] B) 20
- [ ] C) -6
- [ ] D) 14
- [ ] E) -14

---

33 Write 27054027 as a product of its prime factors, using index notation.

- [ ] A) $3^3 \times 7^2 \times 11^2 \times 13^2$
- [ ] B) $3^3 \times 7^2 \times 11^2 \times 13$
- [ ] C) $3^3 \times 7^2 \times 13^2$
- [ ] D) $3^3 \times 7^3 \times 11^2 \times 13^2$
- [ ] E) $3^3 \times 7 \times 11^2 \times 13^2$

---

34 Round 1530.80093 to 2 decimal places.

- [ ] A) 1530.79
- [ ] B) 1500
- [ ] C) 1530.81
- [ ] D) 1530.80
- [ ] E) 1530.801

---

35 Work out $2 \times 3 - 6 \times (7 - 4)^2$

- [ ] A) -30
- [ ] B) -720
- [ ] C) -48
- [ ] D) -52
- [ ] E) 60

---

36 Estimate the value of 0.39×0.7, by rounding each number to 1 significant figure.

- [ ] A) 2.8
- [ ] B) 0.273
- [ ] C) 0.3
- [ ] D) 0.28
- [ ] E) 0.028

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37 Work out $2 - 2 \times (10 - 8)$

- [ ] A) -2
- [ ] B) 6
- [ ] C) -26
- [ ] D) -34
- [ ] E) 0

---

38 Work out $11 + (-19) + (-1)$

- [ ] A) -31
- [ ] B) -9
- [ ] C) 9
- [ ] D) 29
- [ ] E) -7

---

39 Write 146210350 as a product of its prime factors, using index notation.

- [ ] A) $2 \times 5^2 \times 11^3 \times 13^2$
- [ ] B) $2 \times 5^2 \times 13^3$
- [ ] C) $2 \times 5^2 \times 11^3 \times 13^3$
- [ ] D) $2^2 \times 5^2 \times 11^3 \times 13^3$
- [ ] E) $5^2 \times 11^3 \times 13^3$

---

40 Round 825.60599 to 2 decimal places.

- [ ] A) 825.6
- [ ] B) 825.62
- [ ] C) 825.606
- [ ] D) 830
- [ ] E) 825.61

---

41 Work out $8 + 5^2 \times 11$

- [ ] A) 118
- [ ] B) 1859
- [ ] C) -267
- [ ] D) 363
- [ ] E) 283

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42 Estimate the value of 55.81×0.95, by rounding each number to 1 significant figure.

- [ ] A) 60
- [ ] B) 50
- [ ] C) 53.2
- [ ] D) 53.0195
- [ ] E) 6

---

43 Find the highest common factor of 45 and 108.

- [ ] A) 540
- [ ] B) 63
- [ ] C) 9
- [ ] D) 22
- [ ] E) 4860

---

44 Write 91182091 as a product of its prime factors, using index notation.

- [ ] A) $11^2 \times 13^3$
- [ ] B) $7^3 \times 11^2 \times 13^4$
- [ ] C) $7^4 \times 11^2 \times 13^3$
- [ ] D) $7^3 \times 11^2 \times 13^3$
- [ ] E) $7^3 \times 11^3 \times 13^3$

---

45 Round 6595.93146 to 1 decimal place.

- [ ] A) 7000
- [ ] B) 6595.9
- [ ] C) 6595.8
- [ ] D) 6596.0
- [ ] E) 6595.93

---

46 Work out $3 - 7 \times (11 - 9)$

- [ ] A) -83
- [ ] B) 17
- [ ] C) -11
- [ ] D) -137
- [ ] E) -8

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47 Estimate the value of 0.65×0.4, by rounding each number to 1 significant figure.

- [ ] A) 0.26
- [ ] B) 0.28
- [ ] C) 1
- [ ] D) 2.8
- [ ] E) 0.3

---

48 Estimate the value of $(0.9 + 267.47) \times 0.1$, by rounding each number to 1 significant figure.

- [ ] A) 3.009
- [ ] B) 268
- [ ] C) 30
- [ ] D) 30.09
- [ ] E) 26.837

---

49 Find the lowest common multiple of 15 and 27.

- [ ] A) 270
- [ ] B) 42
- [ ] C) 3
- [ ] D) 27
- [ ] E) 135

---

50 Work out 19 - (-14) - (-10)

- [ ] A) 43
- [ ] B) 15
- [ ] C) 5
- [ ] D) -43
- [ ] E) 23

---

51 Round 9858.3863 to 1 decimal place.

- [ ] A) 10000
- [ ] B) 9858.5
- [ ] C) 9858.39
- [ ] D) 9858.3
- [ ] E) 9858.4

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52 Work out $5 \times 12 - 7 \times (9 - 5)^2$

- [ ] A) 172
- [ ] B) -28
- [ ] C) -1312
- [ ] D) -52
- [ ] E) 4

---

53 Estimate the value of 70.3×0.3, by rounding each number to 1 significant figure.

- [ ] A) 21
- [ ] B) 2.1
- [ ] C) 21.09
- [ ] D) 70
- [ ] E) 210

---

54 Find the lowest common multiple of 21 and 24.

- [ ] A) 3
- [ ] B) 168
- [ ] C) 336
- [ ] D) 24
- [ ] E) 504

---

55 Work out -19 - (-16) + 8

- [ ] A) -5
- [ ] B) -11
- [ ] C) 43
- [ ] D) -27
- [ ] E) 5

---

56 Write 61425 as a product of its prime factors, using index notation.

- [ ] A) $3^3 \times 5^2 \times 7 \times 13$
- [ ] B) $5^2 \times 7 \times 13$
- [ ] C) $3^3 \times 5^3 \times 7 \times 13$
- [ ] D) $9 \times 10 \times 7 \times 13$
- [ ] E) $3^3 \times 5^2 \times 13$

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57 Find the highest common factor of 42 and 77.

- [ ] A) 21
- [ ] B) 3234
- [ ] C) 1
- [ ] D) 7
- [ ] E) 35

---

58 Work out $9 \times 5 - 6 \times (10 - 6)^2$

- [ ] A) -3
- [ ] B) 141
- [ ] C) -51
- [ ] D) -1491
- [ ] E) 624

---

59 Estimate the value of 0.19×449.3, by rounding each number to 1 significant figure.

- [ ] A) 449
- [ ] B) 80
- [ ] C) 85.5
- [ ] D) 85.367
- [ ] E) 90

---

60 Find the lowest common multiple of 33 and 36.

- [ ] A) 396
- [ ] B) 792
- [ ] C) 36
- [ ] D) 1188
- [ ] E) 3

---

61 Work out -10 + 3 - (-19)

- [ ] A) -12
- [ ] B) -26
- [ ] C) 12
- [ ] D) 6
- [ ] E) 32

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62 Write 1626625 as a product of its prime factors, using index notation.

- [ ] A) $5^3 \times 7 \times 11 \times 13^3$
- [ ] B) $5^3 \times 7 \times 13^2$
- [ ] C) $15 \times 7 \times 11 \times 26$
- [ ] D) $5^3 \times 7 \times 11 \times 13^2$
- [ ] E) $5^3 \times 7 \times 11$

---

63 Round 1552.95979 to 1 decimal place.

- [ ] A) 1552.9
- [ ] B) 1553.0
- [ ] C) 1553.1
- [ ] D) 1552.96
- [ ] E) 2000

---

64 Work out $(11 + 11) \times 6 - 2$

- [ ] A) 88
- [ ] B) 134
- [ ] C) 75
- [ ] D) -2
- [ ] E) 130

---

65 A recipe for 8 people needs 300g of flour. Work out how much flour is needed to make the recipe for 12 people.

- [ ] A) 600 g
- [ ] B) 1200 g
- [ ] C) 200 g
- [ ] D) 3600 g
- [ ] E) 450 g

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66 Work out $8 \times 6 + 3 \times (-8)$

- [ ] A) 24
- [ ] B) -72
- [ ] C) 72
- [ ] D) -408
- [ ] E) -24

---

67 Write 196 as a product of its prime factors, using index notation.

- [ ] A) 2^2
- [ ] B) 7^2
- [ ] C) 4×14
- [ ] D) $2^2 \times 7^2$
- [ ] E) $2^2 \times 7$

---

68 Round 5891.28017 to 2 decimal places.

- [ ] A) 5891.28
- [ ] B) 5891.3
- [ ] C) 5891.27
- [ ] D) 5900
- [ ] E) 5891.29

---

69 Work out $6 - 8 \times (2 - 4)$

- [ ] A) 4
- [ ] B) 22
- [ ] C) -42
- [ ] D) -10
- [ ] E) -14

---

70 Estimate the value of 568.5×69.95, by rounding each number to 1 significant figure.

- [ ] A) 39900
- [ ] B) 40000
- [ ] C) 42000
- [ ] D) 4200
- [ ] E) 39760

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71 A recipe for 5 people needs 300g of flour. Work out how much flour is needed to make the recipe for 12 people.

- [ ] A) 3600 g
- [ ] B) 720 g
- [ ] C) 600 g
- [ ] D) 2100 g
- [ ] E) 125 g

---

72 Work out -2 + (-4) + 11

- [ ] A) -5
- [ ] B) 13
- [ ] C) 5
- [ ] D) -17
- [ ] E) 9

---

73 Write 36 as a product of its prime factors, using index notation.

- [ ] A) $2^2 \times 3$
- [ ] B) 4×6
- [ ] C) 2^2
- [ ] D) $2^2 \times 3^2$
- [ ] E) 2×3^2

---

74 Round 9636.24985 to 1 decimal place.

- [ ] A) 9636.25
- [ ] B) 9636.1
- [ ] C) 9636.3
- [ ] D) 10000
- [ ] E) 9636.2

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75 Work out $(3 + 9) \times 9 - 3$

- [ ] A) 105
- [ ] B) 72
- [ ] C) 81
- [ ] D) 111
- [ ] E) -57

---

76 Estimate the value of 444.95×344.1, by rounding each number to 1 significant figure.

- [ ] A) 200000
- [ ] B) 1200000
- [ ] C) 12000
- [ ] D) 120000
- [ ] E) 149600

---

77 Find the lowest common multiple of 44 and 24.

- [ ] A) 264
- [ ] B) 68
- [ ] C) 44
- [ ] D) 4
- [ ] E) 528

---

78 Write 9629 to the nearest hundred.

- [ ] A) 9630
- [ ] B) 9600
- [ ] C) 10000
- [ ] D) 9700
- [ ] E) 960

---

79 Work out $(-3) \times 3 + 5 \times (-3)$

- [ ] A) 6
- [ ] B) -6
- [ ] C) 24
- [ ] D) 12
- [ ] E) -24

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80 Write 19965 as a product of its prime factors, using index notation.

- [ ] A) 5×11^3
- [ ] B) $3 \times 5^2 \times 11^3$
- [ ] C) $3 \times 5 \times 11^3$
- [ ] D) $3^2 \times 5 \times 11^3$
- [ ] E) $3 \times 5 \times 11^2$

---

81 Round 7201.10889 to 1 decimal place.

- [ ] A) 7000
- [ ] B) 7201.0
- [ ] C) 7201.11
- [ ] D) 7201.1
- [ ] E) 7201.2

---

82 Work out $(11 + 10) \times 9 - 8$

- [ ] A) 181
- [ ] B) 197
- [ ] C) 93
- [ ] D) 1
- [ ] E) 21

---

83 Estimate the value of $(0.9 + 0.94) \times 0.82$, by rounding each number to 1 significant figure.

- [ ] A) 2
- [ ] B) 14.4
- [ ] C) 1.44
- [ ] D) 1.5088
- [ ] E) 0.144

---

84 Find the lowest common multiple of 21 and 77.

- [ ] A) 7
- [ ] B) 98
- [ ] C) 462
- [ ] D) 1617
- [ ] E) 231

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85 Work out 10 + (-20) - (-14)

- [ ] A) 44
- [ ] B) -4
- [ ] C) -16
- [ ] D) -24
- [ ] E) 4

---

86 Write 3893175 as a product of its prime factors, using index notation.

- [ ] A) $3^2 \times 11^3 \times 13$
- [ ] B) $3^2 \times 5^2 \times 11^3 \times 13$
- [ ] C) $3^2 \times 5^2 \times 11^3$
- [ ] D) $3^2 \times 5 \times 11^3 \times 13$
- [ ] E) $6 \times 10 \times 33 \times 13$

---

87 Round 9521.1881 to 1 decimal place.

- [ ] A) 9521.3
- [ ] B) 9521.19
- [ ] C) 10000
- [ ] D) 9521.2
- [ ] E) 9521.1

---

88 Work out $8 \times 9 - 4 \times (6 - 2)^2$

- [ ] A) -184
- [ ] B) 136
- [ ] C) 8
- [ ] D) 1088
- [ ] E) 44

---

89 Estimate the value of 201×43.76, by rounding each number to 1 significant figure.

- [ ] A) 8000
- [ ] B) 8800
- [ ] C) 8803.8
- [ ] D) 8844
- [ ] E) 800

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90 Find the highest common factor of 77 and 56.

- [ ] A) 28
- [ ] B) 49
- [ ] C) 7
- [ ] D) 1
- [ ] E) 616

---

91 Work out -8 - 4 - 20

- [ ] A) 8
- [ ] B) -16
- [ ] C) 32
- [ ] D) -24
- [ ] E) -32

---

92 Write 94500 as a product of its prime factors, using index notation.

- [ ] A) $2^2 \times 3^2 \times 5^3 \times 7$
- [ ] B) $2^2 \times 3^3 \times 5^3 \times 7$
- [ ] C) $2 \times 3^3 \times 5^3 \times 7$
- [ ] D) $2^2 \times 3^3 \times 5^4 \times 7$
- [ ] E) $2^3 \times 3^3 \times 5^3 \times 7$

---

93 Round 4749.1128 to 2 decimal places.

- [ ] A) 4700
- [ ] B) 4749.1
- [ ] C) 4749.12
- [ ] D) 4749.11
- [ ] E) 4749.113

---

94 Work out (6 + 6) × 11 - 7

- [ ] A) 125
- [ ] B) 139
- [ ] C) 48
- [ ] D) -7
- [ ] E) 65

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95 Estimate the value of 483.21 × 73.4, by rounding each number to 1 significant figure.

- ☐ A) 3500
- ☐ B) 40000
- ☐ C) 35040
- ☐ D) 35000
- ☐ E) 35467.614

---

96 Work out (-3) + (-7) - (-4).

(2)

---

97 Find the lowest common multiple of 20 and 44.

- ☐ A) 880
- ☐ B) 220
- ☐ C) 64
- ☐ D) 4
- ☐ E) 44

---

98 Work out 2 - (-1) - 18

- ☐ A) -19
- ☐ B) 21
- ☐ C) 15
- ☐ D) -17
- ☐ E) -15

---

99 Write 75 as a product of its prime factors, using index notation.

- ☐ A) 3×5
- ☐ B) 3×5^2
- ☐ C) 3×10
- ☐ D) 5^2
- ☐ E) 3

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100 Round 9077.9137 to 3 significant figures.

- [ ] A) 9080
- [ ] B) 9100
- [ ] C) 9070
- [ ] D) 9078
- [ ] E) 9077.914

---

101 Work out $5 \times 8 - 11 \times (16 - 12)^2$

- [ ] A) -8584
- [ ] B) -280
- [ ] C) -48
- [ ] D) -136
- [ ] E) 216

---

102 Estimate the value of 351.15×710.09, by rounding each number to 1 significant figure.

- [ ] A) 28000
- [ ] B) 2800000
- [ ] C) 280000
- [ ] D) 248500
- [ ] E) 200000

---

103 Find the lowest common multiple of 6 and 4.

- [ ] A) 2
- [ ] B) 10
- [ ] C) 6
- [ ] D) 24
- [ ] E) 12

---

104 After a 20% discount, a bicycle costs £220. Work out the original price of the bicycle.

- [ ] A) £275
- [ ] B) £1100
- [ ] C) £44
- [ ] D) £264
- [ ] E) £660

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105 Write 68600 as a product of its prime factors, using index notation.

- [ ] A) $5^2 \times 7^3$
- [ ] B) $2^3 \times 5^2 \times 7^3$
- [ ] C) $2^3 \times 7^3$
- [ ] D) $2^3 \times 5^2$
- [ ] E) $2^3 \times 5^3 \times 7^3$

---

106 Round 72164 to the nearest 100.

- [ ] A) 72100
- [ ] B) 72300
- [ ] C) 72200
- [ ] D) 72000
- [ ] E) 72160

---

107 Work out $112 \div (6 + 8) + 7^2$

- [ ] A) 225
- [ ] B) 57
- [ ] C) 22
- [ ] D) -7
- [ ] E) -41

---

108 Estimate the value of 66×0.7, by rounding each number to 1 significant figure.

- [ ] A) 46.2
- [ ] B) 4.9
- [ ] C) 490
- [ ] D) 50
- [ ] E) 49

---

109 Find the highest common factor of 12 and 22.

- [ ] A) 264
- [ ] B) 6
- [ ] C) 10
- [ ] D) 1
- [ ] E) 2

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110 After a 20% discount, a bicycle costs £260. Work out the original price of the bicycle.

- [ ] A) £780
- [ ] B) £1300
- [ ] C) £312
- [ ] D) £325
- [ ] E) £52

---

111 Write 5500 as a product of its prime factors, using index notation.

- [ ] A) $2^2 \times 5^4 \times 11$
- [ ] B) $5^3 \times 11$
- [ ] C) $2^2 \times 5^3 \times 11$
- [ ] D) $2^2 \times 5^3 \times 11^2$
- [ ] E) $2^2 \times 5^2 \times 11$

---

112 Round 57483 to the nearest 100.

- [ ] A) 57000
- [ ] B) 57500
- [ ] C) 57400
- [ ] D) 57600
- [ ] E) 57480

---

113 Work out $(7 + 12) \times 5 - 2$

- [ ] A) 93
- [ ] B) 97
- [ ] C) 57
- [ ] D) 65
- [ ] E) -27

---

114 Estimate the value of $(0.8 + 20.6) \times 545.27$, by rounding each number to 1 significant figure.

- [ ] A) 11668.778
- [ ] B) 104000
- [ ] C) 11990
- [ ] D) 10000
- [ ] E) 10400

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115 Find the highest common factor of 15 and 21.

- [ ] A) 9
- [ ] B) 7
- [ ] C) 6
- [ ] D) 3
- [ ] E) 1

---

116 A recipe for 4 people needs 450g of flour. Work out how much flour is needed to make the recipe for 10 people.

- [ ] A) 2700 g
- [ ] B) 900 g
- [ ] C) 1125 g
- [ ] D) 4500 g
- [ ] E) 180 g

---

117 Write 100 as a product of its prime factors, using index notation.

- [ ] A) $2^3 \times 5^2$
- [ ] B) 2^2
- [ ] C) 2×5^2
- [ ] D) 4×10
- [ ] E) $2^2 \times 5^2$

---

118 Round 788801 to 2 significant figures.

- [ ] A) 800000
- [ ] B) 788801
- [ ] C) 789000
- [ ] D) 790000
- [ ] E) 780000

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119 Work out $10 - 6 \times (11 - 6)$

- [ ] A) 40
- [ ] B) 20
- [ ] C) -20
- [ ] D) -62
- [ ] E) -92

---

120 Estimate the value of 0.5×90.1, by rounding each number to 1 significant figure.

- [ ] A) 45
- [ ] B) 450
- [ ] C) 50
- [ ] D) 4.5
- [ ] E) 45.05

---

121 Find the lowest common multiple of 21 and 12.

- [ ] A) 168
- [ ] B) 84
- [ ] C) 33
- [ ] D) 252
- [ ] E) 3

---

122 Write 2729 to the nearest hundred.

- [ ] A) 270
- [ ] B) 2730
- [ ] C) 2700
- [ ] D) 2800
- [ ] E) 3000

---

123 Work out $56 \div 7 + 8 \times 3$

- [ ] A) 32
- [ ] B) 16
- [ ] C) -32
- [ ] D) 48
- [ ] E) -16

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Mark scheme · 2.1 Number and Calculation: 2-hour Pack

Question 1

B cao (-128); $8 \times 4 - 10 \times (8 - 4)^2 = -128$ **B1**

Answer: B) -128

Question 2

E cao (36000); round each number to 1 significant figure, then calculate **B1**

Answer: E) 36000

Question 3

B cao (-22); -19 + 5 + (-8) = -22 **B1**

Answer: B) -22

Question 4

C cao ($3^3 \times 5 \times 7^3 \times 13^3$); $101732085 = 3^3 \times 5 \times 7^3 \times 13^3$ **B1**

Answer: C) $3^3 \times 5 \times 7^3 \times 13^3$

Question 5

A cao (891.64); 891.636 rounds to 891.64 **B1**

Answer: A) 891.64

Question 6

D cao (-16); 4 - 4 × (9 - 4) = -16 **B1**

Answer: D) -16

Question 7

E cao (63000); round each number to 1 significant figure, then calculate **B1**

Answer: E) 63000

Question 8

D cao (252); HCF 7, LCM 252 **B1**

Answer: D) 252

Question 9

B cao (-72); (-8) × 6 - 6 × 4 = -72 **B1**

Answer: B) -72

Question 10

A cao (3 × 7 × 11); 231 = 3 × 7 × 11 **B1**

Answer: A) 3 × 7 × 11

Question 11

C cao (20620); 20617 rounds to 20620 **B1**

Answer: C) 20620

Question 12

B cao (83); (10 + 11) × 4 - 1 = 83 **B1**

Answer: B) 83

Question 13

D cao (6000); round each number to 1 significant figure, then calculate **B1**

Answer: D) 6000

Question 14

A cao (2); HCF 2, LCM 60 **B1**

Answer: A) 2

Question 15

C cao (-36); -1 - 16 + (-19) = -36 **B1**

Answer: C) -36

Question 16

E cao ($2^3 \times 3^2 \times 11^2 \times 13$); $113256 = 2^3 \times 3^2 \times 11^2 \times 13$ **B1**

Answer: E) $2^3 \times 3^2 \times 11^2 \times 13$

Question 17

D cao (2578.22); 2578.22266 rounds to 2578.22 **B1**

Answer: D) 2578.22

Question 18

C cao (49); 10 - 11 + 10 × 5 = 49 **B1**

Answer: C) 49

Question 19

B cao (18); round each number to 1 significant figure, then calculate **B1**

Answer: B) 18

Question 20

E cao (275); HCF 5, LCM 275 **B1**

Answer: E) 275

Question 21

A cao (80); (-7) × (-8) - 3 × (-8) = 80 **B1**

Answer: A) 80

Question 22

D cao ($2^2 \times 3 \times 7^3$); $4116 = 2^2 \times 3 \times 7^3$ **B1**

Answer: D) $2^2 \times 3 \times 7^3$

Question 23

E cao (79); (12 + 4) × 5 - 1 = 79 **B1**

Answer: E) 79

Question 24

B cao (77000); round each number to 1 significant figure, then calculate **B1**

Answer: B) 77000

Question 25

C cao (140); HCF 4, LCM 140 **B1**

Answer: C) 140

Question 26

D cao (-48); -14 - 16 - 18 = -48 **B1**

Answer: D) -48

Question 27

A cao ($2^2 \times 5^3 \times 7^2 \times 13^3$); $53826500 = 2^2 \times 5^3 \times 7^2 \times 13^3$ **B1**

Answer: A) $2^2 \times 5^3 \times 7^2 \times 13^3$

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Question 28

(a) total parts = 4 + 5 + 3 = 12, one part = 2880 / 12 = 240 **M1**

(a) £720 cao **A1**

(a) Answer: £720

(b) new total = 2880 x 1.12 = 3225.60 **M1**

(b) new part = 3225.60 / 12 = 268.80 **M1**

(b) £806.40 cao **A1**

(b) Answer: £806.40

Question 29

C cao (313.4); 313.42881 rounds to 313.4 **B1**

Answer: C) 313.4

Question 30

E cao (16); round each number to 1 significant figure, then calculate **B1**

Answer: E) 16

Question 31

B cao (378); HCF 6, LCM 378 **B1**

Answer: B) 378

Question 32

E cao (-14); -4 + (-17) - (-7) = -14 **B1**

Answer: E) -14

Question 33

A cao ($3^3 \times 7^2 \times 11^2 \times 13^2$); $27054027 = 3^3 \times 7^2 \times 11^2 \times 13^2$ **B1**

Answer: A) $3^3 \times 7^2 \times 11^2 \times 13^2$

Question 34

D cao (1530.80); 1530.80093 rounds to 1530.80 **B1**

Answer: D) 1530.80

Question 35

C cao (-48); $2 \times 3 - 6 \times (7 - 4)^2 = -48$ **B1**

Answer: C) -48

Question 36

D cao (0.28); round each number to 1 significant figure, then calculate **B1**

Answer: D) 0.28

Question 37

A cao (-2); 2 - 2 × (10 - 8) = -2 **B1**

Answer: A) -2

Question 38

B cao (-9); 11 + (-19) + (-1) = -9 **B1**

Answer: B) -9

Question 39

C cao ($2 \times 5^2 \times 11^3 \times 13^3$); $146210350 = 2 \times 5^2 \times 11^3 \times 13^3$ **B1**

Answer: C) $2 \times 5^2 \times 11^3 \times 13^3$

Question 40

E cao (825.61); 825.60599 rounds to 825.61 **B1**

Answer: E) 825.61

Question 41

E cao (283); $8 + 5^2 \times 11 = 283$ **B1**

Answer: E) 283

Question 42

A cao (60); round each number to 1 significant figure, then calculate **B1**

Answer: A) 60

Question 43

C cao (9); HCF 9, LCM 540 **B1**

Answer: C) 9

Question 44

D cao ($7^3 \times 11^2 \times 13^3$); $91182091 = 7^3 \times 11^2 \times 13^3$ **B1**

Answer: D) $7^3 \times 11^2 \times 13^3$

Question 45

B cao (6595.9); 6595.93146 rounds to 6595.9 **B1**

Answer: B) 6595.9

Question 46

C cao (-11); 3 - 7 × (11 - 9) = -11 **B1**

Answer: C) -11

Question 47

B cao (0.28); round each number to 1 significant figure, then calculate **B1**

Answer: B) 0.28

Question 48

D cao (30.09); round each number to 1 significant figure, then calculate **B1**

Answer: D) 30.09

Question 49

E cao (135); HCF 3, LCM 135 **B1**

Answer: E) 135

Question 50

A cao (43); 19 - (-14) - (-10) = 43 **B1**

Answer: A) 43

Question 51

E cao (9858.4); 9858.3863 rounds to 9858.4 **B1**

Answer: E) 9858.4

Question 52

D cao (-52); $5 \times 12 - 7 \times (9 - 5)^2 = -52$ **B1**

Answer: D) -52

Question 53

A cao (21); round each number to 1 significant figure, then calculate **B1**

Answer: A) 21

Question 54

B cao (168); HCF 3, LCM 168 **B1**

Answer: B) 168

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Question 55

E cao (5); -19 - (-16) + 8 = 5 **B1**

Answer: E) 5

Question 56

A cao ($3^3 \times 5^2 \times 7 \times 13$); $61425 = 3^3 \times 5^2 \times 7 \times 13$ **B1**

Answer: A) $3^3 \times 5^2 \times 7 \times 13$

Question 57

D cao (7); HCF 7, LCM 462 **B1**

Answer: D) 7

Question 58

C cao (-51); $9 \times 5 - 6 \times (10 - 6)^2 = -51$ **B1**

Answer: C) -51

Question 59

B cao (80); round each number to 1 significant figure, then calculate **B1**

Answer: B) 80

Question 60

A cao (396); HCF 3, LCM 396 **B1**

Answer: A) 396

Question 61

C cao (12); -10 + 3 - (-19) = 12 **B1**

Answer: C) 12

Question 62

D cao ($5^3 \times 7 \times 11 \times 13^2$); $1626625 = 5^3 \times 7 \times 11 \times 13^2$ **B1**

Answer: D) $5^3 \times 7 \times 11 \times 13^2$

Question 63

B cao (1553.0); 1552.95979 rounds to 1553.0 **B1**

Answer: B) 1553.0

Question 64

E cao (130); $(11 + 11) \times 6 - 2 = 130$ **B1**

Answer: E) 130

Question 65

correct option E (450 g) cao **B1**

Answer: E) 450 g

Question 66

A cao (24); $8 \times 6 + 3 \times (-8) = 24$ **B1**

Answer: A) 24

Question 67

D cao ($2^2 \times 7^2$); $196 = 2^2 \times 7^2$ **B1**

Answer: D) $2^2 \times 7^2$

Question 68

A cao (5891.28); 5891.28017 rounds to 5891.28 **B1**

Answer: A) 5891.28

Question 69

B cao (22); $6 - 8 \times (2 - 4) = 22$ **B1**

Answer: B) 22

Question 70

C cao (42000); round each number to 1 significant figure, then calculate **B1**

Answer: C) 42000

Question 71

correct option B (720 g) cao **B1**

Answer: B) 720 g

Question 72

C cao (5); -2 + (-4) + 11 = 5 **B1**

Answer: C) 5

Question 73

D cao ($2^2 \times 3^2$); $36 = 2^2 \times 3^2$ **B1**

Answer: D) $2^2 \times 3^2$

Question 74

E cao (9636.2); 9636.24985 rounds to 9636.2 **B1**

Answer: E) 9636.2

Question 75

A cao (105); $(3 + 9) \times 9 - 3 = 105$ **B1**

Answer: A) 105

Question 76

D cao (120000); round each number to 1 significant figure, then calculate **B1**

Answer: D) 120000

Question 77

A cao (264); HCF 4, LCM 264 **B1**

Answer: A) 264

Question 78

correct option B (9600) cao **B1**

Answer: B) 9600

Question 79

E cao (-24); $(-3) \times 3 + 5 \times (-3) = -24$ **B1**

Answer: E) -24

Question 80

C cao ($3 \times 5 \times 11^3$); $19965 = 3 \times 5 \times 11^3$ **B1**

Answer: C) $3 \times 5 \times 11^3$

Question 81

D cao (7201.1); 7201.10889 rounds to 7201.1 **B1**

Answer: D) 7201.1

Question 82

A cao (181); $(11 + 10) \times 9 - 8 = 181$ **B1**

Answer: A) 181

Question 83

C cao (1.44); round each number to 1 significant figure, then calculate **B1**

Answer: C) 1.44

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Question 84

E cao (231); HCF 7, LCM 231 **B1**

Answer: E) 231

Question 85

E cao (4); 10 + (-20) - (-14) = 4 **B1**

Answer: E) 4

Question 86

B cao ($3^2 \times 5^2 \times 11^3 \times 13$); 3893175 = $3^2 \times 5^2 \times 11^3 \times 13$ **B1**

Answer: B) $3^2 \times 5^2 \times 11^3 \times 13$

Question 87

D cao (9521.2); 9521.1881 rounds to 9521.2 **B1**

Answer: D) 9521.2

Question 88

C cao (8); $8 \times 9 - 4 \times (6 - 2)^2 = 8$ **B1**

Answer: C) 8

Question 89

A cao (8000); round each number to 1 significant figure, then calculate **B1**

Answer: A) 8000

Question 90

C cao (7); HCF 7, LCM 616 **B1**

Answer: C) 7

Question 91

E cao (-32); -8 - 4 - 20 = -32 **B1**

Answer: E) -32

Question 92

B cao ($2^2 \times 3^3 \times 5^3 \times 7$); 94500 = $2^2 \times 3^3 \times 5^3 \times 7$ **B1**

Answer: B) $2^2 \times 3^3 \times 5^3 \times 7$

Question 93

D cao (4749.11); 4749.1128 rounds to 4749.11 **B1**

Answer: D) 4749.11

Question 94

A cao (125); (6 + 6) × 11 - 7 = 125 **B1**

Answer: A) 125

Question 95

D cao (35000); round each number to 1 significant figure, then calculate **B1**

Answer: D) 35000

Question 96

correctly rewrites as -3 - 7 + 4, oe **M1**

-6 cao **A1**

Answer: -6

Question 97

B cao (220); HCF 4, LCM 220 **B1**

Answer: B) 220

Question 98

E cao (-15); 2 - (-1) - 18 = -15 **B1**

Answer: E) -15

Question 99

B cao (3×5^2); 75 = 3×5^2 **B1**

Answer: B) 3×5^2

Question 100

A cao (9080); 9077.9137 rounds to 9080 **B1**

Answer: A) 9080

Question 101

D cao (-136); $5 \times 8 - 11 \times (16 - 12)^2 = -136$ **B1**

Answer: D) -136

Question 102

C cao (280000); round each number to 1 significant figure, then calculate **B1**

Answer: C) 280000

Question 103

E cao (12); HCF 2, LCM 12 **B1**

Answer: E) 12

Question 104

correct option A (£275) cao **B1**

Answer: A) £275

Question 105

B cao ($2^3 \times 5^2 \times 7^3$); 68600 = $2^3 \times 5^2 \times 7^3$ **B1**

Answer: B) $2^3 \times 5^2 \times 7^3$

Question 106

C cao (72200); 72164 rounds to 72200 **B1**

Answer: C) 72200

Question 107

B cao (57); $112 \div (6 + 8) + 7^2 = 57$ **B1**

Answer: B) 57

Question 108

E cao (49); round each number to 1 significant figure, then calculate **B1**

Answer: E) 49

Question 109

E cao (2); HCF 2, LCM 132 **B1**

Answer: E) 2

Question 110

correct option D (£325) cao **B1**

Answer: D) £325

Question 111

C cao ($2^2 \times 5^3 \times 11$); 5500 = $2^2 \times 5^3 \times 11$ **B1**

Answer: C) $2^2 \times 5^3 \times 11$

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Question 112

B cao (57500); 57483 rounds to 57500 **B1**

Answer: B) 57500

Question 113

A cao (93); (7 + 12) × 5 - 2 = 93 **B1**

Answer: A) 93

Question 114

E cao (10400); round each number to 1 significant figure, then calculate **B1**

Answer: E) 10400

Question 115

D cao (3); HCF 3, LCM 105 **B1**

Answer: D) 3

Question 116

correct option C (1125 g) cao **B1**

Answer: C) 1125 g

Question 117

E cao ($2^2 \times 5^2$); $100 = 2^2 \times 5^2$ **B1**

Answer: E) $2^2 \times 5^2$

Question 118

D cao (790000); 788801 rounds to 790000 **B1**

Answer: D) 790000

Question 119

C cao (-20); 10 - 6 × (11 - 6) = -20 **B1**

Answer: C) -20

Question 120

A cao (45); round each number to 1 significant figure, then calculate **B1**

Answer: A) 45

Question 121

B cao (84); HCF 3, LCM 84 **B1**

Answer: B) 84

Question 122

correct option C (2700) cao **B1**

Answer: C) 2700

Question 123

A cao (32); 56 ÷ 7 + 8 × 3 = 32 **B1**

Answer: A) 32

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