2.7 Mental Arithmetic: Test Pack

ISEB CE.M7 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Calculate 34 + 58.

(1)

2 A school has 420 pupils. 2/7 of the pupils walk to school. Calculate how many pupils walk to school.

(3)

3 Work out the value of each of the following.

(a) 9^2 **(1)**

(b) $\sqrt{196}$ **(1)**

(c) 5^3 **(1)**

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4 Write each of the following in the form asked.

(a) Write 3/8 as a decimal. **(1)**

(b) Write 0.35 as a fraction in its simplest form. **(1)**

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5 £96 is shared between Ffion and Max in the ratio 5:3. Work out how much each person receives.

(3)

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6 Ben orders a games console priced at £240. The shop offers 15% off for early payment. There is also a delivery charge of £6.99, which is not discounted. Calculate the total amount Ben pays.

(5)

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7 Solve each equation.

(a) Solve $3x + 7 = 40$. **(2)**

(b) Solve $5y - 12 = 2y + 9$. **(3)**

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8 A charity fun run raises £900 from 3 sponsors, shared in the ratio 4:5:6.

(a) Work out the largest of the three sponsors' shares. **(2)**

.....

(b) The organisers keep 8% of the total £900 for admin costs, and the rest is given to charity. Calculate the amount given to charity. **(3)**

.....

9 38.7 x 21.4 / 4.9

(a) By rounding each number to 1 significant figure, estimate the value of 38.7 x 21.4 / 4.9. **(2)**

(b) Calculate the exact value of 38.7 x 21.4 / 4.9, giving your answer to 2 decimal places. **(2)**

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Mark scheme · 2.7 Mental Arithmetic: Test Pack

Question 1

92 cao **B1**

Answer: 92

Question 2

420 / 7 = 60 oe **M1**

60 x 2 (ft their 60) **M1**

120 cao **A1**

Answer: 120 pupils

Question 3

(a) 81 cao **B1**

(a) Answer: 81

(b) 14 cao **B1**

(b) Answer: 14

(c) 125 cao **B1**

(c) Answer: 125

Question 4

(a) 0.375 oe **B1**

(a) Answer: 0.375

(b) 7/20 oe **B1**

(b) Answer: 7/20

Question 5

96 / 8 = 12 (value of one share) oe **M1**

Ffion receives £60 cao **A1**

Max receives £36 cao **A1**

Answer: Ffion: £60, Max: £36

Question 6

10% of 240 = 24 oe **M1**

5% of 240 = 12 oe **M1**

24 + 12 = 36 (15% of 240 found), dependent on both previous marks **dM1**

240 - 36 = 204 (ft their 36) **M1**

210.99 cao **A1**

Answer: £210.99

Question 7

(a) 3x = 33 oe **M1**

(a) x = 11 cao **A1**

(a) Answer: x = 11

(b) 3y = 21 oe (correct collection of terms) **M1**

(b) y = 21 / 3 (ft their 21) **M1**

(b) y = 7 cao **A1**

(b) Answer: y = 7

Question 8

(a) 900 / 15 = 60 (value of one part) oe **M1**

(a) 360 cao **A1**

(a) Answer: £360

(b) 8% of 900 = 72 oe **M1**

(b) 900 - 72 (ft their 72) **M1**

(b) 828 cao **A1**

(b) Answer: £828

Question 9

(a) 40 x 20 = 800 oe (correct rounding to 1 significant figure) **M1**

(a) 160 cao **A1**

(a) Answer: 160

(b) 38.7 x 21.4 = 828.18 oe **M1**

(b) 169.02 awrt **A1**

(b) Answer: 169.02

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