2.21-3 Worded Problems Set C: 30-minute Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A raffle prize fund of £84 is split between the first and second prize in the ratio 5:2. How much is the first prize worth?

(2)

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2 A number is multiplied by 4, then 9 is subtracted, giving an answer of 47. What is the number?

(2)

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3 A rectangular lawn measures 8 m by 5.5 m. Bev wants to spread fertiliser over the lawn, using 1 bag of fertiliser for every 11 square metres. How many bags of fertiliser does she need?

(2)

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4 6 identical notebooks cost £13.20 in total. How much would 10 of the same notebooks cost?

(2)

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5 A tank contains 45 litres of water. 2/9 of the water is used to fill a paddling pool. How many litres of water are left in the tank?

(2)

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6 A football training session starts at 17:30 and lasts 1 hour 15 minutes. What time does it finish?

(1)

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7 Kemi's grandfather is 3 years more than 4 times Kemi's age. Kemi's grandfather is 71 years old. How old is Kemi?

(2)

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8 In a class of 32 pupils, 3/8 walk to school, 1/4 come by bus, and the rest are driven by car. How many pupils are driven by car?

(3)

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9 A garden centre sells trays of bedding plants. Each tray normally costs £4.80. There is an offer: buy 3 trays and get a 4th tray free.

(a) Using the offer, Dev buys 4 trays. How much does he pay? **(1)**

.....

(b) Using the same offer, how much would 8 trays cost in total? **(2)**

.....

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10 On 05/10, a minibus leaves school at 08:15 to take pupils to an outdoor centre 66 km away. It travels the first 44 km at an average speed of 44 km/h, then stops for a 20 minute rest break.

(a) At what time does the minibus finish the first 44 km, before the break? **(1)**

.....

(b) The minibus then covers the remaining distance at an average speed of 33 km/h. At what time does it arrive at the outdoor centre? **(2)**

.....

11 A school allotment produces 210 kg of vegetables in total. 2/5 of this is potatoes, and the remainder is shared between carrots and onions in the ratio 3:4.

(a) How many kilograms of potatoes are produced? **(1)**

.....

(b) How many kilograms of onions are produced? **(3)**

.....

12 A stationery shop arranges pens into boxes, with the same number of pens in each box. There are 9 boxes. If 4 more pens were put into each box, the shop would have 198 pens in total.

(a) How many pens are currently in each box? **(2)**

.....

(b) How many pens does the shop currently have in total? **(1)**

.....

(c) If instead 3 of the boxes were removed entirely (keeping 18 pens in each remaining box), how many pens would remain? **(1)**

.....

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13 A parcel weighs 2.4 kg. What is this weight in grams?

(1)

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14 In a box of buttons, the ratio of red buttons to blue buttons is 5:3. There are 15 red buttons. How many blue buttons are there?

(1)

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Mark scheme · 2.21-3 Worded Problems Set C: 30-minute Pack

Question 1

total parts = 7, one part = 84 / 7 = £12 **M1**

£60, from 5 x £12 **A1**

Answer: £60

Question 2

sets up 4x - 9 = 47, or equivalent, and finds 4x = 56 **M1**

14 **A1**

Answer: 14

Question 3

finds the area of the lawn = 8 x 5.5 = 44 m² **M1**

4 bags, from 44 / 11 **A1**

Answer: 4 bags

Question 4

finds the cost of 1 notebook = 13.20 / 6 = £2.20 **M1**

£22.00, from 10 x £2.20 **A1**

Answer: £22.00

Question 5

finds water used = 2/9 x 45 = 10 litres **M1**

35 litres **A1**

Answer: 35 litres

Question 6

18:45 **B1**

Answer: 18:45

Question 7

sets up 4x + 3 = 71, or equivalent, and finds 4x = 68 **M1**

17 years old **A1**

Answer: 17 years old

Question 8

finds pupils who walk = 3/8 x 32 = 12 **M1**

finds pupils who come by bus = 1/4 x 32 = 8 **M1**

12 pupils, from 32 - 12 - 8 **A1**

Answer: 12 pupils

Question 9

(a) £14.40, from paying for 3 trays (3 x £4.80) **B1**

(a) Answer: £14.40

(b) recognises that 8 trays under the offer means paying for 6 trays (two lots of 3 paid + 1 free) **M1**

(b) £28.80, from 6 x £4.80 **A1**

(b) Answer: £28.80

Question 10

(a) 09:15 **B1**

(a) Answer: 09:15

(b) finds the time after the break (09:15 + 0:20 = 09:35) and the remaining journey time (22 / 33 = 2/3 hour = 40 minutes) **M1**

(b) 10:15 **A1**

(b) Answer: 10:15

Question 11

(a) 84 kg, from 2/5 x 210 **B1**

(a) Answer: 84 kg

(b) finds the remainder = 210 - 84 = 126 kg **M1**

(b) finds total ratio parts = 7, one part = 126 / 7 = 18 kg **M1**

(b) 72 kg, from 4 x 18 **A1**

(b) Answer: 72 kg

Question 12

(a) 198 / 9 = 22 (pens per box if 4 more were added) **M1**

(a) 18 pens per box **A1**

(a) Answer: 18 pens per box

(b) 162 pens **B1**

(b) Answer: 162 pens

(c) 108 pens **B1**

(c) Answer: 108 pens

Question 13

2400 g, with correct conversion 1 kg = 1000 g **B1**

Answer: 2400 g

Question 14

9 blue buttons, with correct scaling shown or implied **B1**

Answer: 9 blue buttons

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