

Reasoning and Problem Solving – Multiplication and Division answers

Exhibit	Visitors per month	Time Spent in exhibit (minutes)	Weeks since exhibit opened.	Average Customer Score (out of 10)	Value score
Egyptians	27	9	56	7	1,701
Dinosaurs	39	8	89	3	936
Armouries	53	7	68	5	1,855

Exhibit	Visitors last year
Egyptians	297
Dinosaurs	429
Armouries	583

Children's answers may vary but should show understanding of the meaning of the figures e.g. Egyptians has the lowest score for visitors, but also has a high positive feedback and value score, so they may recommend the Egyptians and Armouries exhibits continue.

2. **CODES**

15
24
12
36
48
6
60

3. A = £20.50; B = £25.68; C = £27.00; D = £23.20, so A and D meet the Director's limit. Price structure D will give the most profit to the museum.

4. Children's answers may vary from those shown. They should show accurate knowledge of factor pairs and commutative rule of multiplication.

	3100BC to 2500BC	2500BC to 2000BC	2000BC to 1500BC	1500BC to 1000BC	1000BC to 500BC
Number of coins	50	24	30	36	63
choice 1	2 x 25	4 x 6	10 x 3	12 x 3	9 x 7
choice 2	5 x 10	8 x 3	5 x 6	4 x 9	21 x 3
choice 3	25 x 2	2 x 12	15 x 2	3 x 12	7 x 9

5. $98 \div 7 = 14$ $84 \div 3 = 28$

6.  Plastic Roman Helmet  Miniature Gold Sarcophagus  Cuddly Woolly Mammoth  Metal Roman Soldier

12 for £48 9 for £36 7 for £14 11 for £88

7. Answers give children the chance to practice multiplying efficiently and estimating answers. Answers may vary widely but should amount to no more than £250.

8. St. Jude's: £123 x 5 = £615; £137 x 5 = £685; £234 x 10 = £2,340. £615 + £685 + £2,340 = £3,640 full cost.

Heath Manor: £123 x 3 = £369; £137 x 3 = £411; £234 x 6 = £1,404. £369 + £411 + £1,404 = £2,184 full cost.

Oak Mount: £123 x 8 = £984; £137 x 8 = £1,096; £234 x 16 = £3,744. £984 + £1,096 + £3,744 = £5,824 full cost.

Moorhil: £123 x 2 = £246; £137 x 2 = £274; £234 x 4 = £936. £246 + £274 + £936 = £1,456 full cost.

9. Egyptians: 81 visitor increase. Dinosaurs: 195 visitor increase. Armouries: 424 visitor increase.