Questions

Q1.

Express 210 as a product of its prime factors.

....

Q2.

Answer the question with a cross in the box you think is correct ⊠. If you change your mind about an answer, put a line through the box ⊠ and then mark your new answer with a cross ⊠.

What is the value of

$$4^3 + 25 \times 41 - \sqrt{64} \div 4$$

910.25 ☐   1039 ☐   1085 ☐   1087 ☐

Q3.

Answer the question with a cross in the box you think is correct ⊠. If you change your mind about an answer, put a line through the box ⊠ and then mark your new answer with a cross ⊠.

Work out the value of

$$100 + \left(\sqrt{121} \times 4 - 13\right) - 7^2$$

−48 ☐   60 ☐   82 ☐   382 ☐

Q4.

(a) Share $420 in the ratio 3 : 4

$ .... $ ....

(2)

(b) Write 420 as a product of its prime factors.
   You must show your working.

....

(2)

(Total for question = 4 marks)

Q5.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is the highest common factor of 60 and 90?

10	30	180	540
☐	☐	☐	☐

(Total for question = 1 mark)

Q6.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which of the lists below includes all the common factors of 16 and 20?

1, 2, 4 ☐   1, 2, 4, 5, 8, 10, 16, 20 ☐   2, 2 ☐   80, 160, 240, ... ☐

(Total for question = 1 mark)

(QU02 LMA11/01, June 2022)

Q7.

A man shares $100 between his son and his daughter in the ratio 9:7

How much more does his son receive than his daughter?

$ ....

(Total for question = 2 marks)

(QU18 LMA11/01, June 2022)

Mark Scheme

Q1.

Question number	Working	Answer	Additional Guidance	Mark
	eg. 		210
2	105
3	35
5	7		$2 \times 3 \times 5 \times 7$	M1 for correct decomposition (condone one arithmetic error) or for an answer of 2 3 5 7 A1 accept dot notation	(2)

Q2.

Question number	Answer	Mark
	A – Ignores BIDMAS B – $4^3 + 25 \times (41 - \sqrt{64} \div 4)$ C – Subtracts $\sqrt{(64 \div 4)}$ D – CORRECT ANSWER	1

Q3.

Question number	Answer	Mark
	A – $100 + \sqrt{121} \times 4 - 13 - 7^2$ (without using BIDMAS) B – $100 + (\sqrt{121} \times 4 - 13) - 7^2$ C – CORRECT ANSWER D – $(100 + \sqrt{121}) \times 4 - 13 - 7^2$	(1)

Q4.

Question number	Working	Answer	Additional Guidance	Mark
a	420 ÷ (3 + 4) = 60 3 × '60' : 4 × '60'	180 : 240	M1 for correct method or one correct value A1	2

Question number	Working	Answer	Additional Guidance	Mark
b	eg. 420 2 × 210 2 × 105 3 × 35 5 × 7	2 × 2 × 3 × 5 × 7	M1 for correct method (eg. factor tree) or for correct answer without × signs A1 accept index notation but must be written as a product (not just identifiable from diagram)	2

Q5.

Question number	Answer	Mark
	A – Most obvious common factor B – CORRECT ANSWER C – Lowest Common Multiple D – Product of 60 and 90	1

Q6.

Question number	Answer	Mark
	A – CORRECT ANSWER B – all factors of 16 and 20 C – common prime factors D – common multiples	(1)

Q7.

Question number	Working	Answer	Additional Guidance	Mark
	$100 \div (9 + 7) = 6.25$ 2×6.25	12.50	M1 for $100 \div (9 + 7)$ $(=6.25)$ A1	(2)