Reasoning and Problem Solving Factors

National Curriculum Objectives:

Mathematics Year 5: (5C5a) Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Find missing factors within a multiplication square where the end number for each column and row are the product (using knowledge of the 2, 3, 5, and 10 times table). Expected Find missing factors within a multiplication square where the end number for each column and row are the product (using knowledge of times table facts up to 12 x 12).

Greater Depth Find missing factors within a multiplication square where the end number for each column and row are the product (knowledge of known times table facts to 12 x 12 and beyond).

Questions 2, 5 and 8 (Problem Solving)

Developing Find missing factors and products using the two clues provided (using knowledge of the 2, 3, 5, and 10 times table).

Expected Find missing factors and products using the three clues provided (using knowledge of times table facts up to 12×12).

Greater Depth Find missing factors and products using the three clues provided (knowledge of known times table facts to 12 x 12 and beyond).

Questions 3, 6 and 9 (Reasoning)

Developing Identify if a statement regarding factors is correct and give reasons for the answer (using knowledge of the 2, 3, 5, and 10 times table).

Expected Identify if a statement regarding factors is correct and give reasons for the answer (using knowledge of times table facts up to 12 x 12).

Greater Depth Identify if a statement regarding factors is correct and give reasons for the answer (knowledge of known times table facts to 12 x 12 and beyond).



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Reasoning and Problem Solving – Factors – Teaching Information



Reasoning and Problem Solving – Factors – Year 5 Developing



Reasoning and Problem Solving – Factors – Year 5 Expected



Reasoning and Problem Solving – Factors – Year 5 Greater Depth

Reasoning and Problem Solving <u>Factors</u>

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Developing



2a. A = 6, B = 5, C = 50, D = 25 3a. Arthur is incorrect. The factors of 10 are: 1, 2, 5 and 10.

Expected



5a. A = 2, B = 8, C = 28, D = 14, E = 56 6a. Chloe is incorrect. 24 has got eight different factors: 1, 2, 3, 4, 6, 8, 12, 24

Greater Depth



8a. A = 20, B = 10, C = 5, D = 120, E = 60 9a. Alfie is incorrect. 56 has got eight different factors: 1, 2, 4, 7, 8, 14, 28 and 56

Developing



2b. A = 9, B = 8, C = 14, D = 16 3b. Linda is incorrect. The factors of 15 are: 1, 3, 5, 15.

Expected



5b. A = 4, B = 5, C = 12, D = 24, E = 30 6b. Tommy is incorrect. 16 has got 5 different factors: 1, 2, 4, 8 and 16

Greater Depth 7b.

9	20	180
4	11	44
36	220	

8b. A = 20, B = 14, C = 7, D = 112, E = 56 9b. Ada is incorrect. 66 has got eight different factors: 1, 2, 3, 6, 11, 22, 33 and 66



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Reasoning and Problem Solving – Factors ANSWERS