

Reasoning and Problem Solving Ratio and Proportion Problems

Developing

- 1a. 8 round, 6 square
2a. Max is correct because the number of bracelets has doubled and therefore he will need 6 packs of blue and 4 packs of red which is 10 packs in total.
3a. A. $P = 20\text{cm}$, B. $P = 200\text{cm}$

Expected

- 4a. 6 packs of blue sweets; 4 packs of chocolate buttons
5a. Harry is correct because the recipe has increased by a scale factor of 4 so there will be 12 cherries, 20 grapes and 8 bananas which is 40 pieces of fruit in total.
6a. A. $P = 18\text{cm}$, B. $P = 90\text{cm}$

Greater Depth

- 7a. 15 red, 9 blue and 12 yellow
8a. Hafsa is correct; she has found the amount needed for one card and increased this by a scale factor of 4.
9a. A. $P = 19\text{cm}$, B. $P = 47.5\text{cm}$

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Developing

- 1b. 20 star, 50 triangle
2b. Kelly is correct because the number of bracelets has decreased by half so she will need 4 packs of blue beads and 2 packs of red beads which is 6 packs in total.
3b. A. $P = 40\text{cm}$, B. $P = 80\text{cm}$

Expected

- 4b. 8 packs of sugar flowers; 10 packs of chocolate buttons.
5b. Both children are correct because the recipe has increased by a scale factor of 5 so there will be 10 apples, 15 kiwis and 20 mangoes which is 45 pieces of fruit in total.
6b. A. $P = 21\text{cm}$, B. $P = 147\text{cm}$

Greater Depth

- 7b. 28 red, 20 blue and 8 yellow
8b. Evan is correct; he has found the amount needed for one card and increased this by a scale factor of 10.
9b. A. $P = 40.1\text{cm}$, B. $P = 280.7\text{cm}$