

Chapter 2 Gifted and Enrichment

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| <p>1. Toby waters his garden every 2nd day, Logan every 3rd day, and Jordan every 10th day. In one year, how many times did they all water their gardens on the same day? What assumptions did you make?</p> | <p>2. A helicopter, flying horizontally at 5 m/s, drops seedlings. It takes the seedlings 10 s to land on the ground. How far behind the helicopter do the seedlings land?</p> |
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- 3.** How long would each task take if there was only one person?
- a) 3 people till a garden in 2 days
 - b) 5 people paint a house in 6 days
 - c) 25 people clean the schoolyard in one half hour
 - d) 6 people sort and put away sports equipment in 4 min

- 4.** Red and blue paint are mixed the ratio 1:1 to make 2 L of Colour A. The same red and blue paint are mixed the ratio 1:2 to make 3 L of Colour B.
- a) The 2 L of Colour A and the 3 L of Colour B are mixed to make 5 L of Colour C. What is the ratio of red to blue in Colour C?
 - b) What fraction of Colour C is red?
 - c) The 2 L of Colour A and 2 L of Colour B are mixed to make 4 L of Colour D. Julian says, "Colour A is $\frac{1}{2}$ red and Colour B is $\frac{1}{3}$ red. So, mixing 2 L of each gives 4 L of Colour D that is $\frac{5}{6}$ red." Is Julian correct? Explain.
 - d) What is the ratio of red to blue in Colour D?

- 5.** An engine has three different gears. Gear A is 2:1, Gear B is 3:1, and Gear C is 4:1. Each gear works in reverse as well as forward and works on its own or combined with one or both the other gears. Show all the gear ratios possible. For example, using Gears A and B together, four gear ratios are possible.

| Gears Used | Ratio Used | Resulting Ratios |
|------------|------------|------------------------------------|
| A, B | 2:1, 3:1 | $(2 \times 3):(1 \times 1)$ or 6:1 |
| A, B | 1:2, 1:3 | $(1 \times 1):(2 \times 3)$ or 1:6 |
| A, B | 2:1, 1:3 | $(2 \times 1):(1 \times 3)$ or 2:3 |
| A, B | 1:2, 3:1 | $(1 \times 3):(2 \times 1)$ or 3:2 |