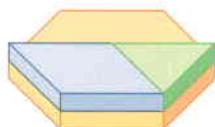## Multiple Choice

For questions 1 to 4, select the correct answer.
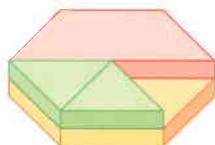
1. What fraction of the hexagon is covered?

A $\dfrac{1}{3}$ **B** $\dfrac{1}{2}$
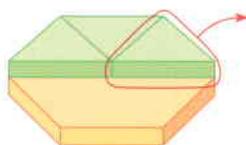
C $\dfrac{2}{3}$ **D** $\dfrac{5}{6}$

2. What fraction of the hexagon is covered?

A $\dfrac{2}{6}$ **B** $\dfrac{4}{6}$

C $\dfrac{1}{6}$ **D** $\dfrac{5}{6}$

3. Evaluate the subtraction represented by the diagram.

A $\dfrac{5}{6}$ **B** $\dfrac{2}{6}$

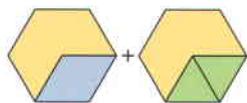**C** $\dfrac{1}{2}$ **D** $\dfrac{1}{6}$

4. Suppose 1 hexagon = 1 whole. The diagram models

A $\dfrac{5}{6} - \dfrac{1}{3}$ **B** $\dfrac{1}{3} + \dfrac{2}{6}$

C $\dfrac{5}{6} + \dfrac{1}{3}$ **D** $\dfrac{1}{3} - \dfrac{2}{6}$
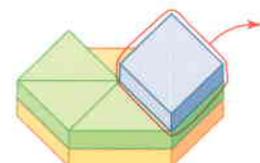
5. Suppose 1 hexagon = 1 whole.
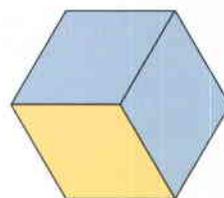
The diagram shows

A $\dfrac{2}{3} + \dfrac{1}{6}$ **B** $\dfrac{1}{2} + \dfrac{1}{3}$

C $\dfrac{1}{3} + \dfrac{2}{6}$ **D** $\dfrac{3}{6} + \dfrac{1}{3}$

Short Answer

6. Suppose 1 hexagon = 1 whole. The diagram shows 2 blue rhombi covering 1 yellow hexagon.

You want to subtract $\dfrac{1}{2}$.

a) Draw a diagram to show this subtraction.

b) Write and evaluate the subtraction statement represented.

7. Rewrite each repeated addition as a multiplication statement and evaluate. Show your answer as an improper fraction and a mixed number, if necessary.

a) $\dfrac{1}{5} + \dfrac{1}{5} + \dfrac{1}{5} + \dfrac{1}{5}$

b) $\dfrac{2}{7} + \dfrac{2}{7} + \dfrac{2}{7} + \dfrac{2}{7} + \dfrac{2}{7}$

8. Find a common denominator for each pair of fractions.

a) $\dfrac{1}{2}$ and $\dfrac{3}{4}$ **b)** $\dfrac{2}{3}$ and $\dfrac{2}{5}$

9. Find two common denominators between 10 and 30 for $\dfrac{1}{3}$ and $\dfrac{1}{4}$.

10. Evaluate.

a) $\dfrac{3}{8} + \dfrac{2}{3}$

b) $\dfrac{5}{6} - \dfrac{4}{5}$

11. a) Which is greater, $1 - \dfrac{3}{4}$ or $1 - \dfrac{3}{10}$?

b) Explain the strategy you used to solve part a).

12. Eric and Afsha are both trying to add $\dfrac{3}{5} + \dfrac{2}{3}$. Eric says the answer is $1\dfrac{4}{15}$. Afsha says the answer is $\dfrac{5}{8}$. Which student is correct? Show how you know.

13. Several apples are cut into slices for a class snack. Each slice is $\dfrac{1}{12}$ of a whole apple. After the snack, there are enough apple slices left over to make $1\dfrac{1}{3}$ whole apples. How many apple slices are left over?

Extended Response

14. Mia and Steven both found a common denominator for $\dfrac{1}{2} + \dfrac{2}{3} + \dfrac{3}{4}$. Mia said, "The common denominator is 12." Steven said, "The common denominator is 24."

a) Who is correct? Explain.

b) Use a common denominator to evaluate $\dfrac{1}{2} + \dfrac{2}{3} + \dfrac{3}{4}$

Chapter Problem Wrap-Up

1. You are asked to create a puzzle for the grade 6 class to help them understand fractions. Your puzzle is to be $\dfrac{1}{6}$ red, $\dfrac{1}{6}$ blue, and $\dfrac{1}{3}$ green. The rest of the puzzle is to be yellow.

a) Design a puzzle that fits this description. Use grid paper, coloured tiles, pattern blocks, centimetre cubes, or another material of your choice.
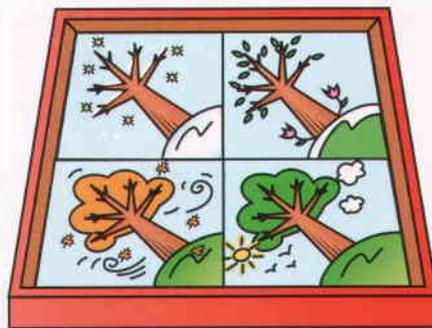
b) Show how you know your puzzle is $\dfrac{1}{3}$ green.

c) What fraction of your puzzle is yellow? Show how you know.

2. Create a puzzle that is $\dfrac{1}{4}$ red, $\dfrac{1}{4}$ blue, and $\dfrac{1}{3}$ green. The rest is yellow. Describe as many fraction relations as you can about this puzzle. Use pictures, words, and numbers in your report.

Chapter 3

1. **Answer: B**
2. **Answer: D**
3. **Answer: B**
4. **Answer: A**
5. **Answer: C**
6. b) ⅔ − ½ = 4/6 − 3/6 = ⅙
7. **Ans:**
   a. 4 × ⅕ = ⅘
   b. 5 × 2/7 = 10/7
8. **Ans:**
   a. (2x2) **4**
   b. (3x5) **15**
9. (3x4) = 12 and (3x4x2) = 24
10. **Ans:**
   a. 3/8+⅔ = 9/24 + 16/24 = 25/24 = 1+1/24 (common denominator = 3x8)
   b. 5/6−4/5= 25/30 − 24/30 = 1/30 (common denominator = 6 x 5)
11. **Ans:**
   a. 1 − 3/10 is greater than 1 - ¾
   b. Because 1−3/4= ¼ and 1 - 3/10 = 7/10, common denominator = 4x10 = 40, ¼ = 10/40, 7/10 = 28/40, 28/40 > 10/40
12. **Eric** is correct: ⅗ + ⅔ = 9/15 + 10/15 = 19 /15 = 1 + 4/15, Afsha is incorrect, as the correct answer has a whole number and is greater than ⅝
13. **Ans:**1+⅓ = 4/3 = 16/12 = 16 slices left over
14. **Ans:**
   a. **Both** are right that 12 and 24 work, but **12 is the least common denominator** (so Mia's is best).
   b. ½ + ⅔ + ¾ = 6/12 + 8/12 + 9/12 = 23/12 = 1+11/12