

# TABLE OF CONTENTS

## Practices

### Fractions

<b>1</b>	Multiply Whole Numbers by Fractions . . . . .	5
<b>2</b>	Multiply Fractions . . . . .	9
<b>3</b>	Divide Whole Numbers by Fractions . . . . .	13
<b>4</b>	Divide Fractions by Fractions . . . . .	17

<b>Review 1</b>	Practices 1–4 . . . . .	21
-----------------	-------------------------	----

<b>Review 2</b>	Practices 1–4 . . . . .	23
-----------------	-------------------------	----

### Decimals

<b>5</b>	Multiply and Divide by Powers of Ten . . . . .	25
<b>6</b>	Multiply Decimals . . . . .	29
<b>7</b>	Divide Decimals by Whole Numbers . . . . .	33
<b>8</b>	Divide by Decimals . . . . .	37

<b>Review 3</b>	Practices 5–8 . . . . .	41
-----------------	-------------------------	----

<b>Review 4</b>	Practices 5–8 . . . . .	43
-----------------	-------------------------	----

### Ratios and Proportional Relationships

<b>9</b>	Understand Ratios . . . . .	45
<b>10</b>	Understand Percentage . . . . .	49
<b>11</b>	Unit Rates . . . . .	53

### Expressions and Equations

<b>12</b>	Ratios in Tables of Data . . . . .	57
-----------	------------------------------------	----

<b>Review 5</b>	Practices 9–12 . . . . .	61
-----------------	--------------------------	----

<b>Review 6</b>	Practices 9–12 . . . . .	63
-----------------	--------------------------	----

**Expressions and Equations (continued)**

<b>13</b>	Solve Equations Using Number Sense . . . . .	65
<b>14</b>	Solve Equations Using Inverse Operations . . . . .	69
<b>15</b>	Use Formulas . . . . .	73

**Surface Area and Volume**

<b>16</b>	Volume . . . . .	77
-----------	------------------	----

<b>Review 7</b>	Practices 13–16 . . . . .	81
-----------------	---------------------------	----

<b>Review 8</b>	Practices 13–16 . . . . .	83
-----------------	---------------------------	----

**Additional practices****Integers**

<b>17</b>	Understand Integers . . . . .	85
-----------	-------------------------------	----

**Statistics**

<b>18</b>	Mean, Median, Range . . . . .	89
-----------	-------------------------------	----

<b>Review 9</b>	Practices 17 and 18 . . . . .	93
-----------------	-------------------------------	----

<b>Review 10</b>	Practices 17 and 18 . . . . .	95
------------------	-------------------------------	----

<b>Glossary</b>	. . . . .	97
-----------------	-----------	----

**MULTIPLY WHOLE NUMBERS BY FRACTIONS**

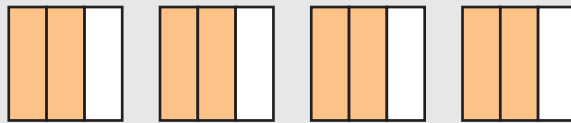
Let's solve this together.



Use models to solve the problem.

1. Find  $4 \times \frac{2}{3}$ .

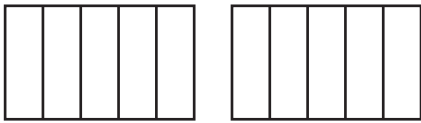
$4 \times \frac{2}{3}$  means 4 groups of  $\frac{2}{3}$ .



**Solution:**  $4 \times \frac{2}{3} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$

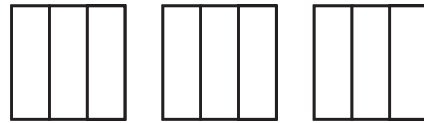
Solve each problem. Shade the models to find the answers. Write the solution.

2.  $2 \times \frac{4}{5}$



**Solution:** \_\_\_\_\_

3.  $3 \times \frac{2}{3}$



**Solution:** \_\_\_\_\_

Solve each problem. Choose the best answer.

4.  $7 \times \frac{5}{9}$  means \_\_\_\_\_ groups of \_\_\_\_\_.

- (A) 7; 5                      (C) 7;  $\frac{5}{9}$   
 (B) 5;  $\frac{7}{9}$                     (D) 9;  $\frac{5}{7}$

5. Amir practises piano for  $\frac{2}{3}$  hour each day. How long does he practise in 5 days?

- (A)  $1\frac{2}{3}$  hours              (C)  $3\frac{2}{3}$  hours  
 (B)  $3\frac{1}{3}$  hours              (D)  $5\frac{2}{3}$  hours

**Solve each problem. Choose the best answer.**

6. Dorrie has 3 pieces of ribbon. Each ribbon is  $\frac{3}{4}$  of a metre long. How much ribbon does she have?

- Ⓐ  $2\frac{1}{4}$  metres
- Ⓑ  $2\frac{1}{2}$  metres
- Ⓒ  $3\frac{3}{4}$  metres
- Ⓓ 4 metres

7. How can  $5 \times \frac{3}{8}$  be written using addition?

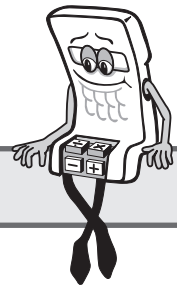
- Ⓐ  $\frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8}$
- Ⓑ  $5 + \frac{3}{8}$
- Ⓒ  $\frac{3}{8} + \frac{3}{8} + \frac{3}{8}$
- Ⓓ  $\frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8}$

8. Ian needs  $\frac{5}{8}$  cup of sugar to make one batch of biscuits. How much sugar does he need to make 3 batches of biscuits?

- Ⓐ  $1\frac{5}{8}$  cups
- Ⓑ  $1\frac{7}{8}$  cups
- Ⓒ  $2\frac{1}{8}$  cups
- Ⓓ  $3\frac{5}{8}$  cups

9. Katie fills bowls of yoghurt for her family. She puts  $\frac{3}{5}$  cup of yoghurt into each bowl. How much yoghurt does Katie use for 4 bowls?

- Ⓐ  $2\frac{1}{5}$  cups
- Ⓑ  $2\frac{2}{5}$  cups
- Ⓒ  $3\frac{4}{5}$  cups
- Ⓓ  $4\frac{3}{5}$  cups



**REASONING**

**Solve the problem. Explain your thinking.**

10. What multiplication problem is shown in the model? Find the product.



**Solution:**  $4 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

---



---

MULTIPLY WHOLE NUMBERS BY FRACTIONS

Use multiplication to solve the problem.

1. Multiply  $5 \times \frac{3}{4}$ .

$$5 \times \frac{3}{4} = \frac{5}{1} \times \frac{3}{4}$$

Write the whole number as a fraction.

$$= \frac{\square}{\square}$$

Multiply the **numerators**.  
Multiply the **denominators**.

$$= \frac{\square}{\square}$$

Write the improper fraction as a mixed number.

Solution:  $\frac{\square}{\square}$

Let's solve this together.



When multiplying fractions by whole numbers:

- Rewrite whole numbers as fractions by putting a 1 in the denominator.
- If the answer is an **improper fraction**, then rewrite it as a **mixed number**.
- Simplify your answer.

Solve the problem. Fill in the blanks.

2.  $4 \times \frac{2}{7}$

$$4 \times \frac{2}{7} = \frac{\square}{\square} \times \frac{\square}{\square}$$

$$= \frac{\square}{\square}$$

$$= \frac{\square}{\square}$$

MENTAL MATHS

Multiply using mental maths.



3.  $3 \times \frac{3}{10} = \underline{\hspace{2cm}}$

5.  $5 \times \frac{1}{8} = \underline{\hspace{2cm}}$

4.  $2 \times \frac{2}{5} = \underline{\hspace{2cm}}$

6.  $3 \times \frac{2}{11} = \underline{\hspace{2cm}}$

**Solve each problem. Choose the best answer.**

7. Julie is making 6 bags of snack mix. She puts  $\frac{5}{8}$  of a kilogram of peanuts in each bag. How many kilograms of peanuts does she use?
- Ⓐ  $3\frac{3}{4}$  kilograms      Ⓒ  $6\frac{5}{8}$  kilograms  
 Ⓑ  $5\frac{1}{8}$  kilograms      Ⓓ  $6\frac{2}{3}$  kilograms
8. Kristi is making bookshelves. If each bookshelf is  $\frac{7}{10}$  of a metre long, how much shelving will she need to make 5 shelves?
- Ⓐ  $2\frac{1}{2}$  metres      Ⓒ  $3\frac{1}{2}$  metres  
 Ⓑ  $2\frac{7}{10}$  metres      Ⓓ  $5\frac{7}{10}$  metres
9. There are 9 students in the cooking club. If each student brings  $\frac{2}{5}$  of a kilogram of vegetables to make soup, how many kilograms of vegetables will they have?
- Ⓐ  $2\frac{4}{5}$  kilograms      Ⓒ  $4\frac{1}{5}$  kilograms  
 Ⓑ  $3\frac{3}{5}$  kilograms      Ⓓ  $4\frac{1}{2}$  kilograms
10. A race car travels one kilometre in  $\frac{3}{8}$  minute. How long does it take the car to travel 8 kilometres?
- Ⓐ  $1\frac{3}{8}$  minutes      Ⓒ 3 minutes  
 Ⓑ  $1\frac{5}{8}$  minutes      Ⓓ  $3\frac{3}{8}$  minutes

## REVIEW 1: PRACTICES 1-4

Solve each problem. Choose the best answer.

- A bag contains 12 kilograms of rice. How many  $\frac{2}{3}$ -kilogram servings are in the box?  
(A) 9 (B) 14 (C) 15 (D) 18
- Cai is making pudding for her family. There are 5 people in Cai's family. If she wants to give each person  $\frac{7}{8}$  of a cup of pudding, how much will she need?  
(A)  $4\frac{1}{8}$  cups (B)  $4\frac{3}{8}$  cups (C)  $5\frac{1}{7}$  cups (D)  $5\frac{5}{7}$  cups
- Dario ran  $2\frac{3}{4}$  kilometres. His friend, Micah, ran with him for  $\frac{2}{5}$  of the run. Which expression gives the distance that Micah ran?  
(A)  $2\frac{3}{4} \div \frac{2}{5}$  (B)  $\frac{2}{5} \div 2\frac{3}{4}$  (C)  $2\frac{3}{4} - \frac{2}{5}$  (D)  $\frac{2}{5} \times 2\frac{3}{4}$
- How many  $\frac{2}{7}$ -metre pieces can be cut from a string that is  $\frac{9}{10}$  of a metre long?  
(A)  $3\frac{3}{20}$  (B)  $3\frac{13}{20}$  (C)  $3\frac{8}{9}$  (D)  $4\frac{1}{2}$
- A tree sloth moves at a speed of  $\frac{1}{20}$  of a metre per second. Which expression gives the distance a tree sloth moves in 5 seconds?  
(A)  $5 \div \frac{1}{20}$  (B)  $20 \times \frac{1}{5}$  (C)  $5 \times \frac{1}{20}$  (D)  $20 \div \frac{1}{5}$
- Five ninths of the cars in a carpark are sedans. Three eighths of the sedans in the carpark are blue. What fraction of the cars in the carpark are blue sedans?  
(A)  $\frac{15}{72}$  (B)  $\frac{8}{17}$  (C)  $\frac{27}{40}$  (D)  $\frac{67}{72}$

**REASONING**

Use the table for numbers 7–10. Solve each problem. Explain your thinking.

The table shows the package size and serving size for three different brands of breakfast cereal.

	Brand A	Brand B	Brand C
<b>Package size</b>	10 cups	9 cups	7 cups
<b>Serving size</b>	$\frac{5}{6}$ of a cup	$\frac{3}{5}$ of a cup	$\frac{7}{8}$ of a cup

7. Which brand has the most servings in a package?

---



---



---

8. For children under age 5, the serving size is  $\frac{2}{3}$  of the regular serving size. What is the serving size for Brand C for children under age 5?

---



---

9. Trent is making snack mix using Brand A. He puts  $\frac{1}{2}$  cup of cereal in each serving of snack mix. How many servings of snack mix can he make from one serving of Brand A?

---



---



---

10. How many packages of Brand B are needed for 20 servings?

---



---



---