MATHEMATICS 5

ADDITION OF MIXED FORM AND DISSIMILAR FRACTIONS

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Objective: Add mixed forms and dissimilar fractions

Review

Change the following to similar fractions.

1) $\dfrac{5}{9} = \dfrac{\square}{\square}$

   $\dfrac{2}{3} = \dfrac{\square}{\square}$

2) $\dfrac{1}{4} = \dfrac{\square}{\square}$

   $\dfrac{2}{5} = \dfrac{\square}{\square}$

3) $\dfrac{1}{9} = \dfrac{\square}{\square}$
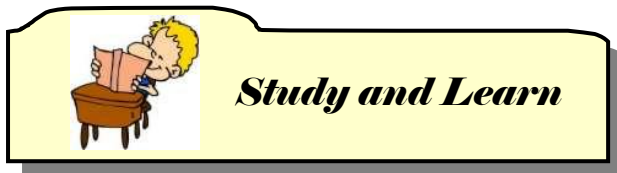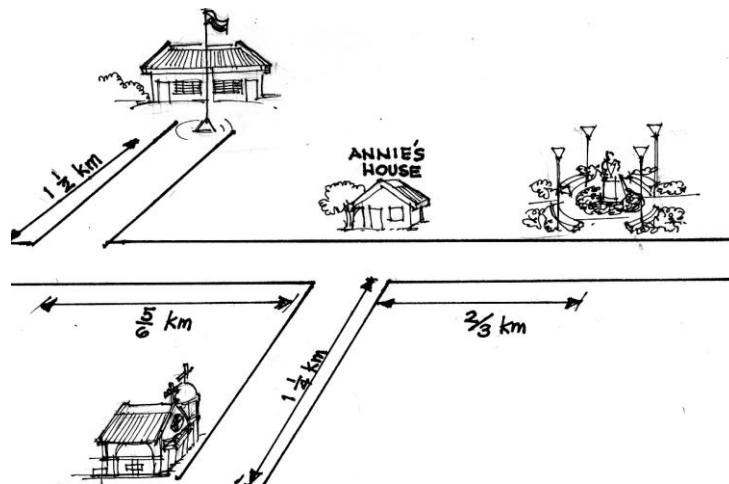
   $\dfrac{3}{4} = \dfrac{\square}{\square}$

4) $\dfrac{5}{8} = \dfrac{\square}{\square}$

   $\dfrac{5}{7} = \dfrac{\square}{\square}$

5) $\dfrac{3}{7} = \dfrac{\square}{\square}$

   $\dfrac{6}{21} = \dfrac{\square}{\square}$

Study and Learn

Study the map below.

ANNIE'S HOUSE

$1\frac{1}{3}$ km

$\frac{5}{6}$ km

$\frac{2}{3}$ km

$1\frac{1}{3}$ km

How far is the school from Anne's house? What process should be used to get the answer?   *Addition*

Let's add $1\frac{1}{2}$ and $\frac{5}{6}$ step by step. Look at the steps closely.

STEP 1 → **Change the fractional part to similar fractions by using the least common denominator (LCD).**

$$1\frac{1}{2} = 1\frac{3}{6}$$
$$+ \frac{5}{6} = \frac{5}{6}$$

The LCD of 2 and 6 is 6.

STEP 2 → **Add the similar fractions and bring down the whole number.**

$$1\frac{3}{6}$$
$$+ \frac{5}{6}$$
$$\overline{}$$
$$1\frac{8}{6}$$

(The answer contains an improper fraction.)

STEP 3 → **Change the improper fraction ($\frac{8}{6}$) to a mixed number.**

Add this to the whole number.

$$\frac{8}{6} = 1\frac{2}{6}$$
$$1 + 1\frac{2}{6} = 2\frac{2}{6} \text{ or } 2\frac{1}{3}$$

Reduce fraction to its lowest form.

Let's have another example.
Take a look at the map again.
If Anne is at the church and wants to go to the park, how far will she travel?
What would be our number sentence?

$$1\frac{1}{4} + \frac{2}{3} = N$$

Let's solve.

(Step 1)

$$1\frac{1}{4} = 1\frac{3}{12}$$

$$+ \frac{2}{3} = \frac{8}{12}$$

$$1\frac{11}{12}$$ ⟵ (Step 2)

We don't need to go to step 3 since the fractional part in the answer is a proper fraction and is already in its simplest form.

So, $1\frac{1}{4} + \frac{2}{3} = 1\frac{11}{12}$. Anne will have to travel $1\frac{11}{12}$ km from the church to the park.

Try These

Add. Look for the answer in the boxes. Match each letter to the answer by writing the letter on top of the correct answer.

$2\frac{1}{6}$	$\frac{2}{3}$		$3\frac{1}{4}$	$\frac{3}{8}$		$3\frac{4}{5}$	$\frac{1}{7}$		$1\frac{1}{3}$	$\frac{2}{9}$		$6\frac{4}{7}$	$\frac{1}{2}$
A			C			D			E			F	

$8\frac{2}{9}$	$\frac{1}{4}$		$1\frac{9}{11}$	$\frac{1}{2}$		$5\frac{6}{9}$	$\frac{3}{5}$		$2\frac{4}{6}$	$\frac{3}{5}$		$7\frac{3}{8}$	$\frac{1}{4}$
I			L			N			O			R	

What do you call a field full of ears?

$2\dfrac{5}{6}$		$3\dfrac{5}{8}$	$3\dfrac{4}{15}$	$7\dfrac{5}{8}$	$6\dfrac{4}{15}$	$7\dfrac{1}{14}$	$8\dfrac{17}{36}$	$1\dfrac{5}{9}$	$2\dfrac{7}{22}$	$3\dfrac{33}{35}$

Wrap Up

In adding a mixed number and a dissimilar fraction:

- Change the fractional parts to similar fractions.
- Add the similar fractions, then the whole numbers.
- If the fraction in the sum is an improper fraction, change it to a mixed number. Add the whole number then reduce to lowest term if necessary.

On Your Own

Add. Reduce the sum to lowest term if necessary.

1) $4\dfrac{1}{3} + \dfrac{1}{8} =$

2) $2\dfrac{2}{5} + \dfrac{1}{2} =$

3) $1\dfrac{4}{9} + \dfrac{1}{3} =$

4) $2\dfrac{3}{7} + \dfrac{1}{3} =$

5) $5\dfrac{1}{2} + \dfrac{2}{5} =$

Check your answer with the answer key.
If you get…
   8-10   Excellent! You may now proceed to the next lesson.
   5-7   You need to review the processes you missed.
   0-4   You need to repeat the whole process. Ask your teacher or elder to help you.

ADDITION OF MIXED FORM AND DISSIMILAR FRACTIONS

REVIEW

1) $\dfrac{5}{9}$ $\dfrac{6}{9}$

2) $\dfrac{5}{20}$ $\dfrac{8}{20}$

3) $\dfrac{4}{36}$ $\dfrac{27}{36}$

4) $\dfrac{35}{56}$ $\dfrac{40}{56}$

5) $\dfrac{9}{21}$ $\dfrac{6}{21}$

TRY THESE

A		C	O	R	N	F	I	E	L	D
$2\dfrac{5}{6}$		$3\dfrac{5}{8}$	$3\dfrac{4}{15}$	$7\dfrac{5}{8}$	$6\dfrac{4}{15}$	$7\dfrac{1}{14}$	$8\dfrac{17}{36}$	$1\dfrac{5}{9}$	$2\dfrac{7}{22}$	$3\dfrac{33}{35}$

ON YOUR OWN

1) $4\dfrac{11}{24}$

2) $2\dfrac{9}{10}$

3) $1\dfrac{7}{9}$

4) $2\dfrac{16}{21}$

5) $5\dfrac{9}{10}$