Colin and Coco's Daily Maths Workout

Workout 6.12

Answers

Keep-uppI (Term 3)

KPIs for Term 3

Add and subtract fractions with denominators that are not multiples of each other
Add and subtract mixed numbers
Multiply simple pairs of proper fractions
Divide proper fractions by a whole number

Adding and Subtracting Fractions Workout

Calculate giving your answer as mixed number where appropriate

$\frac{1}{2} + \frac{1}{3} = \boxed{\frac{5}{6}}$ $\frac{1}{2} + \frac{2}{3} = \boxed{1\frac{1}{6}}$ $\frac{1}{3} - \frac{1}{5} = \boxed{\frac{2}{15}}$ $\frac{2}{3} - \frac{1}{4} = \boxed{\frac{5}{12}}$

$\frac{1}{3} + \frac{1}{4} = \boxed{\frac{7}{12}}$ $\frac{2}{5} + \frac{3}{4} = \boxed{1\frac{3}{20}}$ $\frac{1}{2} - \frac{1}{5} = \boxed{\frac{3}{10}}$ $\frac{3}{4} - \frac{1}{5} = \boxed{\frac{11}{20}}$

$\frac{1}{4} + \frac{2}{5} = \boxed{\frac{13}{20}}$ $\frac{5}{6} + \frac{1}{4} = \boxed{1\frac{1}{12}}$ $\frac{1}{4} - \frac{1}{6} = \boxed{\frac{1}{12}}$ $\frac{3}{4} - \frac{2}{3} = \boxed{\frac{1}{12}}$

$\frac{1}{2} + \frac{1}{4} + \frac{1}{5} = \boxed{\frac{19}{20}}$ $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \boxed{1\frac{1}{12}}$ $\frac{1}{3} - \frac{1}{5} - \frac{1}{10} = \boxed{\frac{1}{30}}$ $\frac{1}{2} - \frac{1}{3} + \frac{1}{5} = \boxed{\frac{11}{30}}$

Adding and Subtracting Mixed Numbers Workout

$1\frac{1}{5} + 1\frac{2}{5} = \boxed{2\frac{3}{5}}$ $1\frac{1}{5} + 1\frac{1}{2} = \boxed{2\frac{7}{10}}$ $2\frac{4}{5} - 1\frac{2}{5} = \boxed{1\frac{2}{5}}$ $1\frac{1}{2} - 1\frac{1}{3} = \boxed{\frac{1}{6}}$

$1\frac{4}{7} + 1\frac{5}{7} = \boxed{3\frac{2}{7}}$ $1\frac{1}{3} + 1\frac{1}{4} = \boxed{2\frac{7}{12}}$ $1\frac{6}{7} - 1\frac{2}{7} = \boxed{\frac{4}{7}}$ $2\frac{1}{4} - 1\frac{1}{5} = \boxed{1\frac{1}{20}}$

$1\frac{1}{2} + 2\frac{1}{4} = \boxed{3\frac{3}{4}}$ $1\frac{2}{5} + 2\frac{1}{4} = \boxed{3\frac{13}{20}}$ $2\frac{2}{3} - 1\frac{1}{6} = \boxed{1\frac{3}{6}}$ $3\frac{2}{3} - 1\frac{1}{4} = \boxed{2\frac{5}{12}}$

$\boxed{3\frac{1}{9}} = 1\frac{2}{3} + 1\frac{4}{9}$ $\boxed{3\frac{5}{12}} = 1\frac{2}{3} + 1\frac{3}{4}$ $\boxed{1\frac{5}{8}} = 3\frac{1}{4} - 1\frac{5}{8}$ $\boxed{2\frac{14}{15}} = 4\frac{1}{3} - 1\frac{2}{5}$

$2\frac{3}{4} + 2\frac{5}{8} = \boxed{5\frac{3}{8}}$ $2\frac{4}{5} + 1\frac{1}{3} = \boxed{4\frac{2}{15}}$ $4\frac{3}{5} - 3\frac{7}{10} = \boxed{\frac{9}{10}}$ $4\frac{3}{8} - 1\frac{2}{5} = \boxed{2\frac{39}{40}}$

Multiplying and Divide Fractions Workout

$\frac{1}{2} \times \frac{1}{4} = \boxed{\frac{1}{8}}$ $\frac{2}{3} \times \frac{2}{5} = \boxed{\frac{4}{15}}$ $\frac{1}{4} \div 2 = \boxed{\frac{1}{8}}$ $\frac{6}{7} \div 2 = \boxed{\frac{3}{7}}$

$\frac{1}{3} \times \frac{1}{4} = \boxed{\frac{1}{12}}$ $\frac{2}{5} \times \frac{3}{4} = \boxed{\frac{6}{20}}$ $\frac{1}{3} \div 2 = \boxed{\frac{1}{6}}$ $\frac{6}{9} \div 3 = \boxed{\frac{2}{9}}$

$\frac{2}{3} \times \frac{1}{5} = \boxed{\frac{2}{15}}$ $\frac{3}{4} \times \frac{2}{3} = \boxed{\frac{6}{12}}$ $\frac{3}{7} \div 3 = \boxed{\frac{1}{7}}$ $\frac{2}{3} \div 3 = \boxed{\frac{2}{9}}$

$\boxed{\frac{3}{8}} = \frac{3}{4} \times \frac{1}{2}$ $\boxed{\frac{20}{30}} = \frac{4}{5} \times \frac{5}{6}$ $\boxed{\frac{1}{6}} = \frac{3}{6} \div 3$ $\boxed{\frac{3}{16}} = \frac{3}{4} \div 4$

Adding and Subtracting Fractions/Mixed Numbers Game

You need: (print off the cards)
Game Template A or B
Card Set A for each player.
Card Set B or C for each player.

To play:
Each card set is shuffled and placed face down.
Each player picks TWO cards from Set B (or C) and places them on their Game Template as the denominators.
Each player picks one digit card from their Set A and places it on their Game Template either as a numerator or, in the case of Game B, a whole number.
Each player picks another digit card from their Set A and places it on their Game Template.
Once cards have been placed they can not be moved.
Both players keep picking cards to create fractions or mixed numbers.

To win:
The player who creates the largest total scores one point.
Using the same cards, the players try and create the smallest total. A second point is scored for the smallest total.
The first player to get 10 points wins the Game.

Game Template A

$$\frac{A}{B} + \frac{A}{B} =$$

Note
The Game Templates can be adapted by changing the '+' to a '-' to practise subtracting fractions and/or mixed numbers.

Game Template B

$$A\frac{A}{B} + A\frac{A}{B} =$$

Adding and Subtracting Fractions/Mixed Numbers Game

Set A

2	3	4	5
6	7	8	9

Set B

2	3	4	5
6	7	8	9

Adding and Subtracting Mixed Numbers Workout

Put different digits in the empty boxes so that the fraction statements are correct.

Possible Solution

$$1 \frac{1}{\boxed{3}} + \boxed{2} \frac{\boxed{1}}{4} = \boxed{3} \frac{\boxed{7}}{1\boxed{2}}$$

$$2 \frac{\boxed{5}}{\boxed{3}0} = \boxed{2} \frac{\boxed{5}}{1\boxed{0}} - 1 \frac{\boxed{4}}{6}$$

Are there any boxes that it is impossible to put a digit in? Why?

Are there any boxes that could have any of the digits in them?

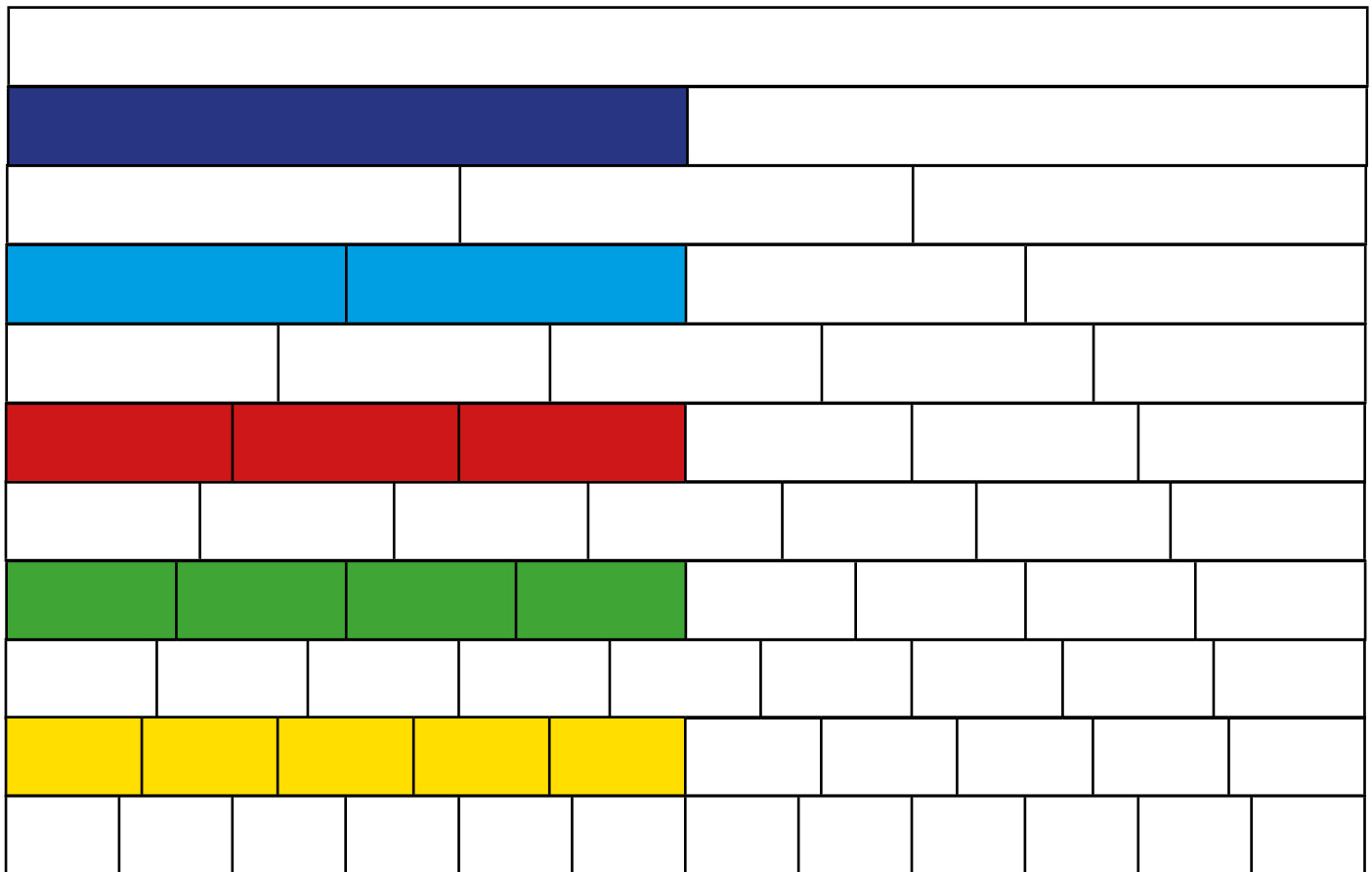Now complete both calculations together using the digits 0, 1, 2, 3, 4, 5, 6 and 7 at least once each.

Multiplying and Dividing Fractions Investigation

Using the Fraction Wall, investigate multiplication and division facts involving proper fractions.

For example:

- Shade $\frac{1}{2}$

- Shade all the other equivalent fractions

Describe the shaded equivalent fractions using 'x' and '÷' such as:

$\frac{1}{2} \div 2 = \frac{1}{4}$

One half of one half is one quarter

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$\frac{1}{2} \div 3 = \frac{1}{6}$

One quarter of one half is one eigth

$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

Complete these statements for the other equivalent fractions. Investigate for other unit and non-unit fractions.

Word Problem Workout

1. $\frac{1}{3}$ of children in class five were wearing brown shoes. $\frac{2}{5}$ were wearing black shoes. Everyone else was wearing trainers.
   What fraction wore trainers?

   $\frac{4}{15}$

2. Coco exercises for an hour each morning.
   She jogs for $\frac{1}{3}$ of an hour, walks for $\frac{1}{4}$ of an hour.
   What fraction of the hour has she left for flying?

   $\frac{5}{12}$

3. Simon is $7\frac{3}{4}$ years old. His brother is $3\frac{5}{6}$ years younger.
   How old is his brother?

   $3\frac{11}{12}$

4. Fred's Bakery uses $3\frac{3}{4}$ sacks of plain flour, $4\frac{3}{5}$ sacks of self-raising flour every day. How much flour is that in total?

   $8\frac{7}{20}$

5. Colin shares $\frac{3}{4}$ of his lasagne between 4 of his friends.
   What fraction of the lasagne does each person get?

   $\frac{3}{16}$

6. $\frac{2}{3}$ of a football team are right footed players. $\frac{1}{4}$ of right footed players wear bobble hats when they train.
   What fraction of the team are right footed bobble hat wearers?

   $\frac{2}{12}$

7. $\frac{3}{5}$ of the seats in a train carriage are reserved. $\frac{1}{3}$ of these are reserved for people going shopping.
   What fraction of the seats are reserved for shoppers?

   $\frac{3}{15}$

Create your own word problems involving fractions.

Matching Workout

Match the fraction or mixed number in column A with an
operation in column B to make an answer in column C

A	B	C
$\frac{4}{5}$	$-1\frac{4}{9}$	$\frac{5}{12}$
$3\frac{3}{4}$	$+2\frac{2}{5}$	$2\frac{3}{8}$
$1\frac{7}{10}$	$+\frac{2}{3}$	$1\frac{7}{15}$
$1\frac{2}{5}$	$+1\frac{4}{12}$	$3\frac{4}{5}$
$1\frac{1}{4}$	$-1\frac{3}{8}$	$4\frac{3}{10}$
$2\frac{2}{9}$	$+2\frac{3}{5}$	$\frac{7}{9}$
$2\frac{1}{12}$	$-1\frac{2}{3}$	$2\frac{7}{12}$

Match the calculation
with the answer
Fill in the missing buddies

$\frac{2}{3} \div 2$	$\frac{1}{8}$
$\frac{1}{2} \div 3$	$\frac{1}{9}$
$\frac{4}{5} \div 2$	$\frac{1}{3}$
$\frac{1}{2} \div 4$	$\frac{3}{8}$
$\frac{3}{4} \div 2$	$\frac{1}{6}$
$\frac{1}{3} \div 3$	$\frac{1}{2}$
$\frac{3}{6} \div 3$	$\frac{2}{5}$

Match the calculation
with the answer
Fill in the missing buddies

$\frac{2}{3} \times \frac{1}{3}$	$\frac{1}{10}$
$\frac{1}{4} \times \frac{3}{4}$	$\frac{1}{4}$
$\frac{4}{5} \times \frac{1}{2}$	$\frac{2}{9}$
$\frac{1}{2} \times \frac{1}{5}$	$\frac{3}{12}$
$\frac{3}{4} \times \frac{1}{3}$	$\frac{3}{16}$
$\frac{1}{3} \times \frac{3}{4}$	$\frac{1}{6}$
$\frac{5}{6} \times \frac{1}{5}$	$\frac{4}{10}$

Create your own Matching Workouts.