# Grade 5 – Book B

*Teacher's Guidelines*

**(CAPS edition)**

**Revised for 2023**

## CONTENT:




This book was compiled and adapted in 2019 by E. Language in collaboration with EJ du Toit.

**E-mail:** info@abcbooks.co.za





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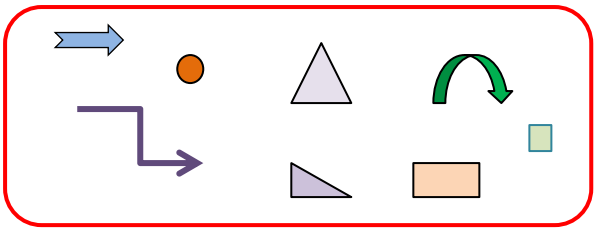
# Chapter B1

# Fractions

**Exercise 1:** **Date:** _____

(1) **Answer the questions.**



(a) How many elements are there in the block? $8$

(b) How many elements are arrows? $3$

(c) What fraction of the elements is arrows? $\frac{3}{8}$

(d) What fraction of the elements is not arrows? $\frac{5}{8}$

(e) What fraction is quadrilaterals? $\frac{2}{8}$

(f) What fraction is not quadrilaterals? $\frac{6}{8}$

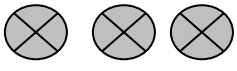
(g) What fraction is triangles? $\frac{2}{8}$

(h) What fraction is not triangles? $\frac{6}{8}$

(i) What fraction of the elements is circles? $\frac{1}{8}$

(j) What fraction of the elements is not circles or triangles? $\frac{5}{8}$

**(2) What fraction is shaded and what fraction is not shaded?**

| | | FRACTION SHADED | FRACTION NOT SHADED |
|---|---|---|---|
| (a) |  | $\frac{2}{3}$ | $\frac{1}{3}$ |
| (b) |  | $\frac{3}{4}$ | $\frac{1}{4}$ |
| (c) |  | $\frac{3}{6}$ | $\frac{3}{6}$ |
| (d) |  | $\frac{12}{4}$ | $\frac{0}{4}$ |

**MULTIPLICATION AND DIVISION (Speed test)**
**(2x – 5x)**

**Exercise B1A:** **Date:** _____

**Write down the answer.**

| | | | |
|---|---|---|---|
| (a) 3 x 3 = 9 | (a) 16 ÷ 4 = 4 | (a) 25 x 4 = 100 | (a) 7 x 3 = 21 |
| (b) 12 ÷ 4 = 3 | (b) 9 x 3 = 27 | (b) 36 ÷ 4 = 9 | (b) 32 ÷ 4 = 8 |
| (c) 12 x 5 = 60 | (c) 25 ÷ 5 = 5 | (c) 4 x 5 = 20 | (c) 0 x 3 = 0 |
| (d) 24 ÷ 4 = 6 | (d) 3 x 4 = 12 | (d) 12 ÷ 3 = 4 | (d) 48 ÷ 4 = 12 |
| (e) 3 x 5 = 15 | (e) 100 ÷ 4 = 25 | (e) 7 x 4 = 28 | (e) 50 ÷ 2 = 25 |
| (f) 48 ÷ 4 = 12 | (f) 8 x 3 = 24 | (f) 4 ÷ 0 = undef. | (f) 27 ÷ 3 = 9 |
| (g) 3 x 4 = 12 | (g) 100 ÷ 5 = 20 | (g) 7 x 5 = 35 | (g) 18 ÷ 3 = 6 |
| (h) 30 ÷ 5 = 6 | (h) 7 x 3 = 21 | (h) 48 ÷ 2 = 24 | (h) 70 ÷ 2 = 35 |
| (i) 3 x 3 = 9 | (i) 24 ÷ 2 = 12 | (i) 4 x 5 = 20 | (i) 48 ÷ 3 = 16 |
| (j) 12 x 3 = 36 | (j) 20 x 5 = 100 | (j) 28 ÷ 4 = 7 | (j) 24 ÷ 4 = 6 |
| **Total:** | **Total:** | **Total:** | **Total:** |

**Total out of 40:**

**Use the table to compare the fractions.**

| 1 whole | | | | | | | |
|---|---|---|---|---|---|---|---|
| $\frac{1}{2}$ | | | | $\frac{1}{2}$ | | | |
| $\frac{1}{4}$ | | $\frac{1}{4}$ | | $\frac{1}{4}$ | | $\frac{1}{4}$ | |
| $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ |

**(3) Fill in: > ; < or =**

(a) $\frac{4}{4}$ [ > ] $\frac{1}{2}$ (b) $\frac{1}{8}$ [ < ] $\frac{1}{4}$ (c) $\frac{2}{4}$ [ = ] $\frac{1}{2}$

(d) $\frac{4}{4}$ [ = ] $\frac{2}{2}$ (f) $\frac{3}{8}$ [ < ] $\frac{2}{4}$ (f) $\frac{1}{8}$ [ < ] $\frac{1}{2}$

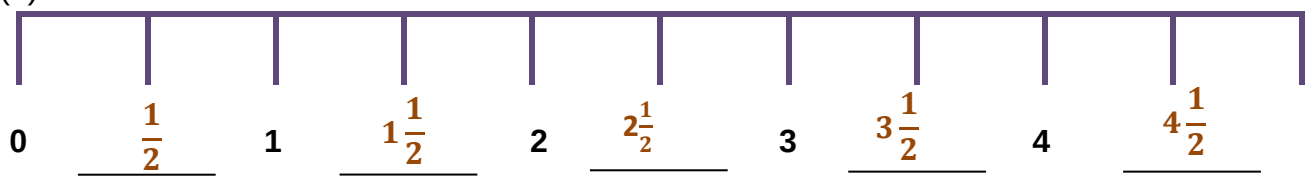
(g) $\frac{6}{8}$ [ = ] $\frac{3}{4}$ (h) $\frac{1}{1}$ [ = ] $\frac{4}{4}$ (i) $\frac{8}{8}$ [ = ] $\frac{2}{2}$

(j) $\frac{1}{4}$ [ < ] $\frac{3}{8}$ (k) $\frac{1}{2}$ [ < ] $\frac{3}{4}$ (l) $\frac{4}{4}$ [ > ] $\frac{4}{8}$

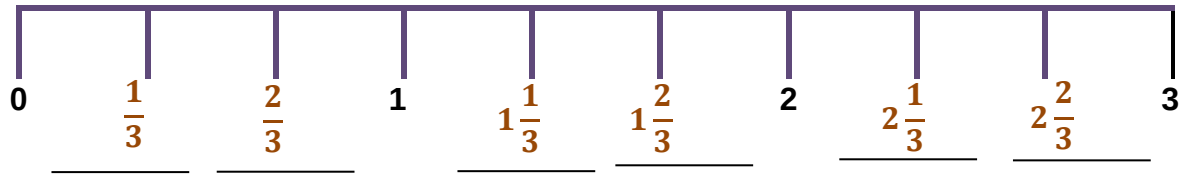
(m) $\frac{5}{8}$ [ > ] $\frac{1}{2}$ (n) $\frac{1}{1}$ [ = ] $\frac{8}{8}$ (o) $\frac{4}{8}$ [ = ] $\frac{1}{2}$

**(4) Complete the number line.**

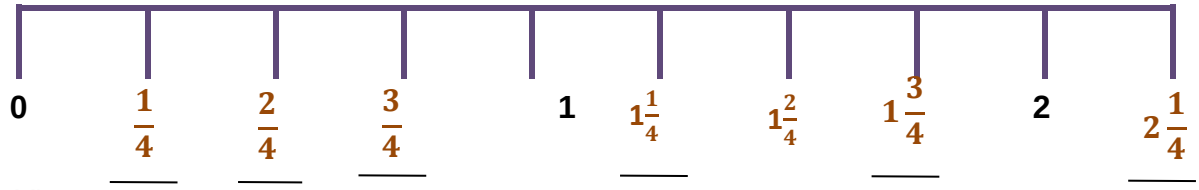
(a)



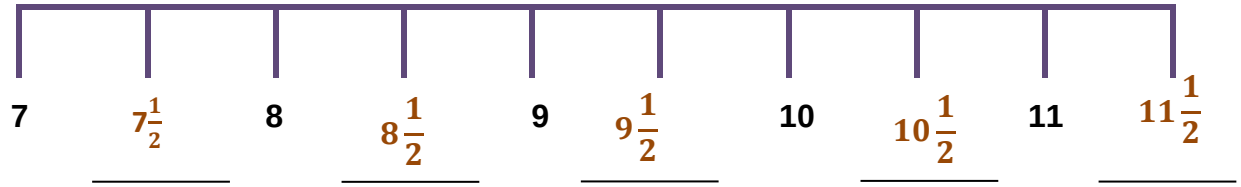

(b)




(c)




(d)



## MULTIPLICATION AND DIVISION (Speed test)
## (6x – 7x)

**Exercise B1B:** **Date:** _____

**Write down the answer.**

| | | | |
|---|---|---|---|
| (a) 3 x 7 = 21 | (a) 18 ÷ 6 = 3 | (a) 7 x 6 = 42 | (a) 11 x 7 = 77 |
| (b) 63 ÷ 7 = 9 | (b) 6 x 7 = 42 | (b) 49 ÷ 7 = 7 | (b) 28÷ 7 = 4 |
| (c) 7 x 7 = 49 | (c) 84 ÷ 7 = 12 | (c) 12 x 6 = 72 | (c) 6 x 7 = 42 |
| (d) 24 ÷ 6 = 4 | (d) 12 x 7 = 84 | (d) 48 ÷ 6 = 8 | (d) 60 ÷ 6 = 10 |
| (e) 8 x 7 = 56 | (e) 54 ÷ 6 = 9 | (e) 9 x 7 = 63 | (e) 6 x 6 = 36 |
| (f) 48 ÷ 6 = 8 | (f) 5 x 7 = 35 | (f) 16 ÷ 0 = undef. | (f) 77 ÷ 7 = 11 |
| (g) 0 x 6 = 0 | (g) 7 ÷ 7 = 1 | (g) 6 x 6 = 36 | (g) 35 ÷ 7 = 5 |
| (h) 72 ÷ 6 = 12 | (h) 5 x 7 = 35 | (h) 84 ÷ 7 = 12 | (h) 9 x 6 = 54 |
| (i) 3 x 6 = 18 | (i) 36 ÷ 6 = 6 | (i) 7 x 7 = 49 | (i) 30 ÷ 6 = 5 |
| (j) 12 x 7 = 84 | (j) 9 x 7 = 63 | (j) 49 ÷ 7 = 7 | (j) 72 ÷ 6 = 12 |
| **Total:** | **Total:** | **Total:** | **Total:** |

**Total out of 40:**

| PROPER FRACTION | IMPROPER FRACTION | MIXED NUMBER |
|---|---|---|
| $\frac{3}{4}$ | $\frac{5}{4}$ | $1\frac{1}{4}$ |
| The fraction is ***less*** than 1whole. The numerator is therefore less than the denominator. | The fraction is ***greater*** than 1 whole. The numerator is therefore greater than the denominator. | The fraction is ***greater*** than 1 whole. |

**Exercise 2:** **Date:** _____

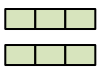
**(1) Classify the fractions as proper fractions, improper fractions or mixed numbers.**

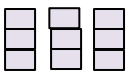
| $\frac{1}{3}$ | $\frac{4}{3}$ | $\frac{1}{5}$ | $1\frac{1}{5}$ |
|---|---|---|---|
| Proper fraction | Improper fraction | Proper fraction | Mixed number |

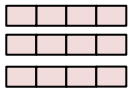
**(2) Encircle all the fractions that are greater than 1 whole.**

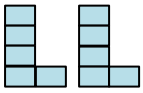
$\frac{7}{8}$ $\frac{4}{5}$ $\frac{3}{8}$ $\frac{7}{6}$ $\frac{2}{3}$ $\frac{4}{1}$ $\frac{8}{8}$ $\frac{7}{5}$ $1\frac{7}{8}$

**(3) How many whole numbers are there in each of the following?**

(a)  $\frac{6}{3}$ = 2

(b)  $\frac{9}{3}$ = 3

(c)  $\frac{12}{4}$ = 3

(d)  $\frac{10}{5}$ = 2

(e) ? $\frac{8}{2}$ = 4

(f) ? $\frac{16}{4}$ = 4

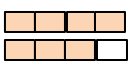
(g) ? $\frac{20}{2}$ = 10

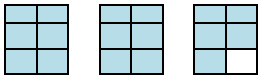
(h) ? $\frac{36}{4}$ = 9

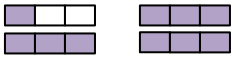
(i) ? $\frac{12}{4}$ = 3

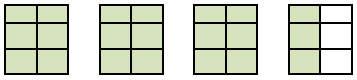
(j) ? $\frac{18}{2}$ = 9

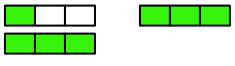
**(4) What fraction is shaded in each case? Write this as a mixed number as well.**

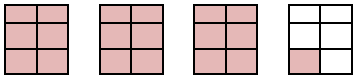
(a)  ➡ $\frac{7}{4} = 1\frac{3}{4}$

(b)  ➡ $\frac{17}{6} = 2\frac{5}{6}$

(c)  ➡ $\frac{10}{3} = 3\frac{1}{3}$

(d)  ➡ $\frac{21}{6} = 3\frac{3}{6}$

(e)  ➡ $\frac{7}{3} = 2\frac{1}{3}$

(f)  ➡ $\frac{19}{6} = 3\frac{1}{6}$

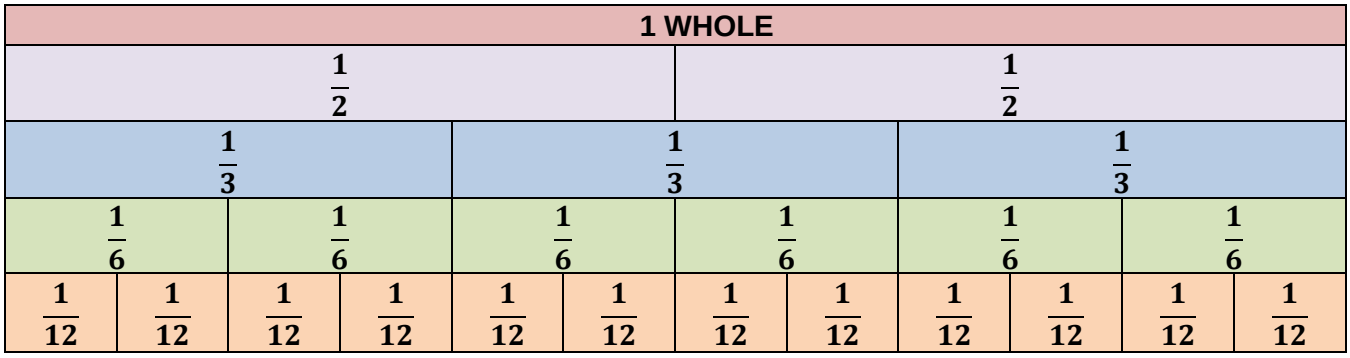
**MULTIPLICATION AND DIVISION (Speed test)**
**(8x – 9x)**

**Exercise B1C:** **Date:** _____

**Write down the answer.**

| | | | |
|---|---|---|---|
| (a) 3 x 8 = 24 | (a) 18 ÷ 9 = 2 | (a) 5 x 9 = 45 | (a) 11 x 7 = 77 |
| (b) 81÷ 9 = 9 | (b) 6 x 9 = 54 | (b) 63 ÷ 9 = 7 | (b) 48 ÷ 6 = 8 |
| (c) 7 x 9 = 63 | (c) 40 ÷ 8 = 5 | (c) 12 x 8 = 96 | (c) 6 x 9 = 54 |
| (d) 64 ÷ 8 = 8 | (d) 12 x 8 = 96 | (d) 56 ÷ 8 = 7 | (d) 27 ÷ 9 = 3 |
| (e) 7 x 8 = 56 | (e) 72 ÷ 8 = 9 | (e) 8 x 9 = 72 | (e) 9 x 9 = 81 |
| (f) 45 ÷ 9 = 5 | (f) 24 ÷ 8 = 3 | (f) 18 ÷ 0 = undef. | (f) 88 ÷ 8 = 11 |
| (g) 0 x 9 = 0 | (g) 45 ÷ 9 = 5 | (g) 6 x 9 = 54 | (g) 45 ÷ 9 = 5 |
| (h) 27 ÷ 9 = 3 | (h) 5 x 8 = 40 | (h) 96 ÷ 12 = 8 | (h) 8 x 9 = 72 |
| (i) 3 x 9 = 27 | (i) 108 ÷ 9 = 12 | (i) 7 x 9 = 63 | (i) 72 ÷ 9 = 8 |
| (j) 7 x 9 = 63 | (j) 8 x 9 = 72 | (j) 16 ÷ 8 = 2 | (j) 35 ÷ 7 = 5 |
| **Total:** | **Total:** | **Total:** | **Total:** |

**Total out of 40:**




**Exercise 3:** **Date:** _____

**(1) Complete with equivalent fractions.**

$1 = \frac{2}{2} = \frac{3}{3} = \frac{6}{6} = \frac{12}{12}$

**(2) Study the diagram at the top of the page and answer the questions.**

(a) $\frac{2}{6}$ = 1 third

(b) $\frac{6}{6}$ = 1 whole

(c) $\frac{2}{3}$ = 4 sixths

(d) $\frac{4}{12}$ = 1 third

(e) $\frac{3}{6}$ = 1 halve

(f) $\frac{8}{12}$ = 4 sixths

(g) $\frac{1}{2}$ = 6 twelfths

(h) $\frac{1}{3}$ = 4 twelfths

(i) $\frac{1}{2}$ = 3 sixths

(j) $\frac{4}{6}$ = 8 twelfths

(k) $\frac{3}{3}$ = 1 whole

(l) $\frac{1}{1}$ = 3 thirds

(m) $\frac{12}{12}$ = 6 sixths

*(n) $\frac{4}{2}$ = 2 whole

*(o) $\frac{9}{3}$ = 3 whole

*(p) $\frac{24}{12}$ = 2 whole

*(q) $\frac{12}{3}$ = 4 whole

*(r) $\frac{18}{3}$ = 6 whole

*(s) $\frac{36}{12}$ = 3 whole

*(t) $\frac{24}{6}$ = 4 whole

**(3) Complete with the correct numerator to give whole numbers.**

(a) $\frac{10}{2}$ = 5

(b) $\frac{6}{3}$ = 2

(c) $\frac{9}{3}$ = 3

(d) $\frac{8}{4}$ = 2

(e) $\frac{16}{4}$ = 4

(f) $\frac{10}{2}$ = 5

(g) $\frac{10}{5}$ = 2

(h) $\frac{24}{4}$ = 6

(i) $\frac{15}{5}$ = 3

**MULTIPLICATION AND DIVISION (Speed test)**
**(10x – 12x)**

**Exercise B1D:** **Date:** _____

**Write down the answer**

| | | | |
|---|---|---|---|
| (a) 3 x 12 = 36 | (a) 24 ÷ 12 = 2 | (a) 5 x 12 = 60 | (a) 110 x 12 = 1 320 |
| (b) 108 ÷ 9 = 12 | (b) 11 x 12 = 132 | (b) 48 ÷ 12 = 4 | (b) 480 ÷ 12 = 40 |
| (c) 7 x 12 = 84 | (c) 144 ÷ 12 = 12 | (c) 12 x 12 = 144 | (c) 30 x 12 = 360 |
| (d) 96 ÷ 8 = 12 | (d) 12 x 7 = 84 | (d) 120 ÷ 10 = 12 | (d) 840 ÷ 12 = 70 |
| (e) 7 x 10 = 70 | (e) 132 ÷ 12 = 11 | (e) 20 x 12 = 240 | (e) 110 x 11 = 1 210 |
| (f) 60 ÷ 12 = 5 | (f) 121 ÷ 11= 11 | (f) 60 ÷ 0 = undef. | (f) 990 ÷ 11 = 90 |
| (g) 0 x 10 = 0 | (g) 77 ÷ 11 = 7 | (g) 40 x 11 = 440 | (g) 1 000 ÷ 10 = 100 |
| (h) 36 ÷ 12 = 3 | (h) 9 x 12 = 108 | (h) 600 ÷ 10 = 60 | (h) 40 x 12 = 480 |
| (i) 7 x 12 = 84 | (i) 108 ÷ 9 = 12 | (i) 11 x 10 = 110 | (i) 12 ÷ 12 = 1 |
| (j) 4 x 12 = 48 | (j) 2 x 12 = 24 | (j) 240 ÷ 12 = 20 | (j) 770 ÷ 7 = 110 |
| **Total:** | **Total:** | **Total:** | **Total:** |

**Total out of 40:**

# Mixed numbers and improper fractions

**Exercise 4:** **Date:** _____

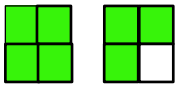
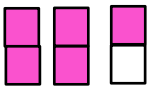
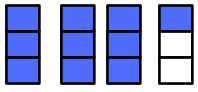
**(1) How many whole numbers are there in each case, and how much of the fraction remains?**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (a) | $\frac{9}{5}$ | = | $\frac{5}{5}+\frac{4}{5}$ | = | 1 whole | and | 4 | fifths |
| (b) | $\frac{11}{6}$ | = | $\frac{6}{6}+\frac{5}{6}$ | = | 1 whole | and | 5 | sixths |
| (c) | $\frac{9}{7}$ | = | $\frac{7}{7}+\frac{2}{7}$ | = | 1 whole | and | 2 | sevenths |
| (d) | $\frac{15}{6}$ | = | $\frac{6}{6}+\frac{6}{6}+\frac{3}{6}$ | = | 2 wholes | and | 3 | sixths |
| *(e) | $\frac{7}{3}$ | = | $\frac{3}{3}+\frac{3}{3}+\frac{1}{3}$ | = | 2 wholes | and | 1 | third |
| *(f) | $\frac{19}{7}$ | = | $\frac{7}{7}+\frac{7}{7}+\frac{5}{7}$ | = | 2 wholes | and | 5 | sevenths |
| (g) | $\frac{9}{6}$ | = | $\frac{6}{6}+\frac{3}{6}$ | = | 1 whole | and | 3 | sixths |
| (h) | $\frac{6}{5}$ | = | $\frac{5}{5}+\frac{1}{5}$ | = | 1 whole | and | 1 | fifth |

**(2) Write it the other way round.**

| | | | | | |
|---|---|---|---|---|---|
| (a) | $1\frac{3}{5}$ | = | $\frac{5}{5}+\frac{3}{5}$ | = | $\frac{8}{5}$ |
| (b) | $2\frac{2}{3}$ | = | $\frac{3}{3}+\frac{3}{3}+\frac{2}{3}$ | = | $\frac{8}{3}$ |
| (c) | $1\frac{3}{7}$ | = | $\frac{7}{7}+\frac{3}{7}$ | = | $\frac{10}{7}$ |
| (d) | $1\frac{5}{6}$ | = | $\frac{6}{6}+\frac{5}{6}$ | = | $\frac{11}{6}$ |
| (e) | $2\frac{1}{3}$ | = | $\frac{3}{3}+\frac{3}{3}+\frac{1}{3}$ | = | $\frac{7}{3}$ |
| (f) | $2\frac{1}{7}$ | = | $\frac{7}{7}+\frac{7}{7}+\frac{1}{7}$ | = | $\frac{15}{7}$ |
| (g) | $2\frac{2}{4}$ | = | $\frac{4}{4}+\frac{4}{4}+\frac{2}{4}$ | = | $\frac{10}{4}$ |

**(3) Write sums to fit the following drawings.**

| | Blocks shaded | | | | | | Improper Fraction |
|---|---|---|---|---|---|---|---|
| (a) |  | = | 1 | whole 3 | quarters | or | $\frac{7}{4}$ |
| (b) |  | = | 2 | wholes 1 | halve | or | $\frac{5}{2}$ |
| (c) |  | = | 3 | wholes 1 | third | or | $\frac{10}{3}$ |

**MULTIPLICATION AND DIVISION (Speed test)**
**(2x – 8x)**

**Exercise B1E:** **Date:** _____

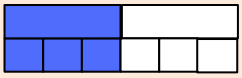
**Write down the answer.**

| | | | |
|---|---|---|---|
| (a) 3 x 7 = 21 | (a) 35 ÷ 7 = 5 | (a) 7 x 8 = 56 | (a) 7 x 7 = 49 |
| (b) 64 ÷ 8 = 8 | (b) 6 x 7 = 42 | (b) 36 ÷ 4 = 9 | (b) 48 ÷ 8 = 6 |
| (c) 7 x 9 = 63 | (c) 40 ÷ 8 = 5 | (c) 12 x 8 = 96 | (c) 6 x 8 = 48 |
| (d) 49 ÷ 7 = 7 | (d) 4 x 8 = 32 | (d) 56 ÷ 8 = 7 | (d) 27 ÷ 3 = 9 |
| (e) 7 x 6 = 42 | (e) 36 ÷ 6 = 6 | (e) 8 x 7 = 56 | (e) 1 x 1 = 1 |
| (f) 45 ÷ 5 = 9 | (f) 24 ÷ 8 = 3 | (f) 24 ÷ 0 = undef. | (f) 96 ÷ 8 = 12 |
| (g) 0 x 8 = 0 | (g) 45 ÷ 9 = 5 | (g) 6 x 4 = 24 | (g) 45 ÷ 5 = 9 |
| (h) 27 ÷ 3 = 9 | (h) 5 x 8 = 40 | (h) 72 ÷ 6 = 12 | (h) 8 x 3 = 24 |
| (i) 8 x 7 = 56 | (i) 108 ÷ 9 = 12 | (i) 7 x 3 = 21 | (i) 24 ÷ 6 = 4 |
| (j) 7 x 9 = 63 | (j) 8 x 4 = 32 | (j) 16 ÷ 8 = 2 | (j) 42 ÷ 7 = 6 |
| **Total:** | **Total:** | **Total:** | **Total:** |

**Total out of 40:**

# Equivalent fractions *(This refers to fractions that have the same value)*

**Exercise 5:** **Date:** _____



$\frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$ ***therefore***: $\frac{1}{2} = \frac{3}{6}$

**(1) Write down equivalent fractions.**

**GOLDEN RULE**: Multiply or divide both top and bottom by the same number.

| | | | |
|---|---|---|---|
| (a) $\frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$ | (b) $\frac{1}{3} \times \frac{2}{2} = \frac{2}{6}$ | (c) $\frac{1}{3} \times \frac{3}{3} = \frac{3}{9}$ |
| d) $\frac{2}{5} \times \frac{2}{2} = \frac{4}{10}$ | (e) $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$ | (f) $\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$ |
| (g) $\frac{3}{6} \times \frac{2}{2} = \frac{6}{12}$ | (h) $\frac{5}{8} \times \frac{2}{2} = \frac{10}{16}$ | (i) $\frac{1}{9} \times \frac{2}{2} = \frac{2}{18}$ |
| (j) $\frac{4}{7} \times \frac{2}{2} = \frac{8}{14}$ | (k) $\frac{3}{6} \times \frac{2}{2} = \frac{6}{12}$ | (l) $\frac{2}{3} \times \frac{5}{5} = \frac{10}{15}$ |
| (m) $\frac{4}{9} \times \frac{10}{10} = \frac{40}{90}$ | (n) $\frac{2}{9} \times \frac{9}{9} = \frac{18}{81}$ | (o) $\frac{1}{5} \times \frac{14}{14} = \frac{14}{70}$ |

**(1) Write the correct numbers in the blank spaces to make each statement true.**

| | | | |
|---|---|---|---|
| (a) $\frac{1}{2} = \frac{3}{6}$ | (b) $\frac{1}{2} = \frac{2}{4}$ | (c) $\frac{1}{2} = \frac{4}{8}$ | (d) $\frac{1}{2} = \frac{5}{10}$ |
| (e) $\frac{1}{4} = \frac{2}{8}$ | (f) $\frac{1}{4} = \frac{3}{12}$ | (g) $\frac{1}{4} = \frac{5}{20}$ | (h) $\frac{1}{4} = \frac{4}{16}$ |
| (i) $\frac{1}{3} = \frac{2}{6}$ | (j) $\frac{1}{3} = \frac{4}{12}$ | (k) $\frac{1}{3} = \frac{6}{18}$ | (l) $\frac{1}{3} = \frac{7}{21}$ |
| (m) $\frac{1}{5} = \frac{2}{10}$ | (n) $\frac{1}{5} = \frac{8}{40}$ | (o) $\frac{1}{5} = \frac{4}{20}$ | (p) $\frac{1}{5} = \frac{6}{30}$ |
| (q) $\frac{2}{6} = \frac{4}{12}$ | (r) $\frac{4}{5} = \frac{12}{15}$ | (s) $\frac{2}{3} = \frac{20}{30}$ | (t) $\frac{4}{6} = \frac{16}{24}$ |
| (u) $\frac{3}{4} = \frac{18}{24}$ | (v) $\frac{4}{8} = \frac{16}{32}$ | (w) $\frac{5}{7} = \frac{25}{35}$ | (x) $\frac{4}{6} = \frac{24}{36}$ |

**MULTIPLICATION AND DIVISION (Speed test)**
**(9x – 12x)**

**Exercise B1F:** **Date:** _____

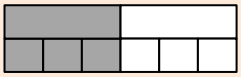
**Write down the answer.**

| | | | |
|---|---|---|---|
| (a) 6 x 9 = 54 | (a) 45 ÷ 9 = 5 | (a) 3 x 9 = 27 | (a) 11 x 90 = 990 |
| (b) 81÷ 9 = 9 | (b) 6 x 9 = 54 | (b) 36 ÷ 12 = 3 | (b) 480 ÷ 12 = 40 |
| (c) 7 x 9 = 63 | (c) 48 ÷ 12 = 4 | (c) 12 x 12 = 144 | (c) 6 x 120 = 720 |
| (d) 36 ÷ 9 = 4 | (d) 12 x 12 = 144 | (d) 96 ÷ 12 = 8 | (d) 360 ÷ 3 = 120 |
| (e) 7 x 12 = 84 | (e) 54 ÷ 9 = 6 | (e) 8 x 9 = 72 | (e) 11 x 12 = 132 |
| (f) 45 ÷ 9 = 5 | (f) 60 ÷ 12 = 5 | (f) 36 ÷ 2 = 18 | (f) 840 ÷ 12 = 70 |
| (g) 0 x 11 = 0 | (g) 132 ÷ 11 = 12 | (g) 6 x 2 = 12 | (g) *450 ÷ 50 = 9 |
| (h) 36 ÷ 12 = 3 | (h) 5 x 12 = 60 | (h) 72 ÷ 6 = 12 | (h) *120 x 9 = 1 080 |
| (i) 11 x 11 = 121 | (i) 108 ÷ 9 = 12 | (i) 7 x 9 = 63 | (i) *720 ÷ 90 = 8 |
| (j) 8 x 12 = 96 | (j) 8 x 9 = 72 | (j) 18 ÷ 0 = *undef.* | (j) *1 080 ÷ 90 = 12 |
| **Total:** | **Total:** | **Total:** | **Total:** |

**Total out of 40:**

# More equivalent fractions (simplify)

**Exercise 6:** **Date:** _____



$\frac{6}{12} \div \frac{6}{6} = \frac{1}{2}$ *therefore*: $\frac{3}{6} = \frac{1}{2}$

**(1) Write down equivalent fractions.**

**GOLDEN RULE**: Multiply or divide both top and bottom by the same number.

| | | | |
|---|---|---|---|
| (a) $\frac{6}{12} \div \frac{6}{6} = \frac{1}{2}$ | (b) $\frac{9}{12} \div \frac{3}{3} = \frac{3}{4}$ | (c) $\frac{4}{8} \div \frac{4}{4} = \frac{1}{2}$ |
| (d) $\frac{6}{8} \div \frac{2}{2} = \frac{3}{4}$ | (e) $\frac{12}{15} \div \frac{3}{3} = \frac{4}{5}$ | (f) $\frac{5}{10} \div \frac{5}{5} = \frac{1}{2}$ |
| (g) $\frac{7}{14} \div \frac{7}{7} = \frac{1}{2}$ | (h) $\frac{8}{16} \div \frac{8}{8} = \frac{1}{2}$ | (i) $\frac{9}{18} \div \frac{9}{9} = \frac{1}{2}$ |
| (j) $\frac{18}{21} \div \frac{3}{3} = \frac{6}{7}$ | (k) $\frac{12}{24} \div \frac{12}{12} = \frac{1}{2}$ | (l) $\frac{24}{30} \div \frac{6}{6} = \frac{4}{5}$ |
| (m) $\frac{20}{30} \div \frac{10}{10} = \frac{2}{3}$ | (n) $\frac{9}{27} \div \frac{9}{9} = \frac{1}{3}$ | (o) $\frac{15}{20} \div \frac{5}{5} = \frac{3}{4}$ |

**(2) Supply the correct numbers to make each statement true.**

| | | | |
|---|---|---|---|
| (a) $\frac{3}{6} = \frac{1}{2}$ | (b) $\frac{6}{12} = \frac{1}{2}$ | (c) $\frac{10}{20} = \frac{1}{2}$ | (d) $\frac{9}{18} = \frac{1}{2}$ |
| (e) $\frac{3}{12} = \frac{1}{4}$ | (f) $\frac{5}{20} = \frac{1}{4}$ | (g) $\frac{4}{16} = \frac{1}{4}$ | (h) $\frac{6}{24} = \frac{1}{4}$ |
| (i) $\frac{4}{12} = \frac{1}{3}$ | (j) $\frac{5}{15} = \frac{1}{3}$ | (k) $\frac{2}{6} = \frac{1}{3}$ | (l) $\frac{3}{9} = \frac{1}{3}$ |

**(3) How many whole numbers are there?**

| | | | |
|---|---|---|---|
| (a) $\frac{12}{6} =$ **2** | (b) $\frac{14}{7} =$ **2** | (c) $\frac{21}{3} =$ **7** |
| (d) $\frac{18}{6} =$ **3** | (e) $\frac{24}{6} =$ **4** | (f) $\frac{30}{6} =$ **5** |
| (g) $\frac{16}{4} =$ **4** | (h) $\frac{20}{5} =$ **4** | (i) $\frac{28}{4} =$ **7** |

## MULTIPLICATION AND DIVISION (Speed test)

**Exercise B1G:** **Date:** _____

### ORDER OF OPERATIONS

**Write down the answer.**

| | | |
|---|---|---|
| (a) 6 x 6 + 4 = 40 | (a) 50 - 45 ÷ 5 = 41 | (a) 35 + 5 x 7 = 70 |
| (b) 5 + 81÷ 9 = 14 | (b) 90 - 5 x 9 = 45 | (b) 9 + 48 ÷ 8 = 15 |
| (c) 70 - 7 x 9 = 7 | (c) 70 – 7 x 5 = 35 | (c) 7 + 12 x 12 = 151 |
| (d) 100 – 25 x 2 = 50 | (d) 150 - 12 x 12 = 6 | (d) 8 + 56 ÷ 8 = 15 |
| (e) 24 - 2 x 12 = 0 | (e) 120 – 20 x 3 = 60 | (e) 80 - 8 x 5 = 40 |
| (f) 40 - 45 ÷ 9 = 35 | (f) 100 – 5 x 5 = 75 | (f) 75 - 24 ÷ 8 = 72 |
| (g) 12 - 0 x 11 = 12 | (g) 20 - 81 ÷ 9 = 11 | (g) 65 - 4 x 9 = 29 |
| (h) 18 - 36 ÷ 3 = 6 | (h) 80 - 8 x 8 = 16 | (h) 15 + 72 ÷ 6 = 27 |
| (i) 50 - 6 x 5 = 20 | (i) 40 + 64 ÷ 8 = 48 | (i) 4 + 7 x 9 = 67 |
| (j) 40 - 7 x 5 = 5 | (j) 25 + 8 x 8 = 89 | (j) 18 + 64 ÷ 8 = 26 |
| **Total:** | **Total:** | **Total:** |

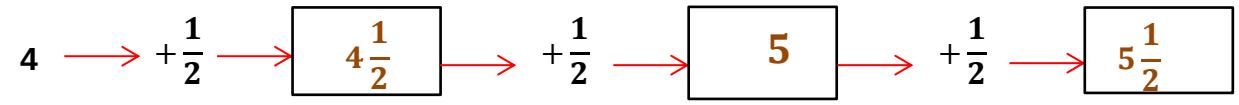
**Total out of 30:**

# Adding fractions

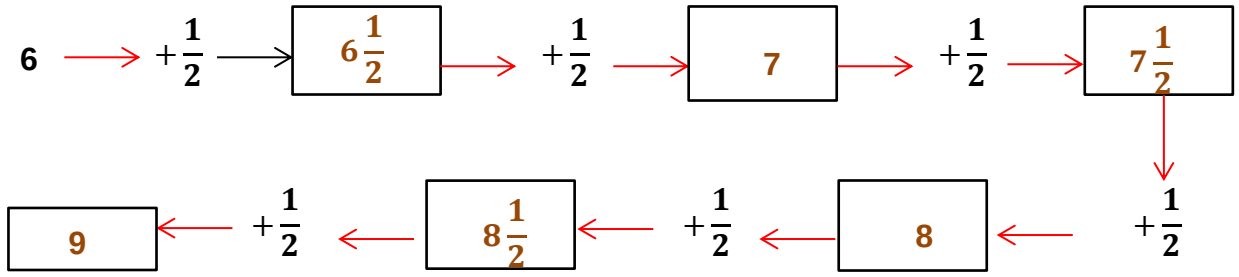
**Exercise 7:** **Date:** _____

**(1) Complete the patterns.**

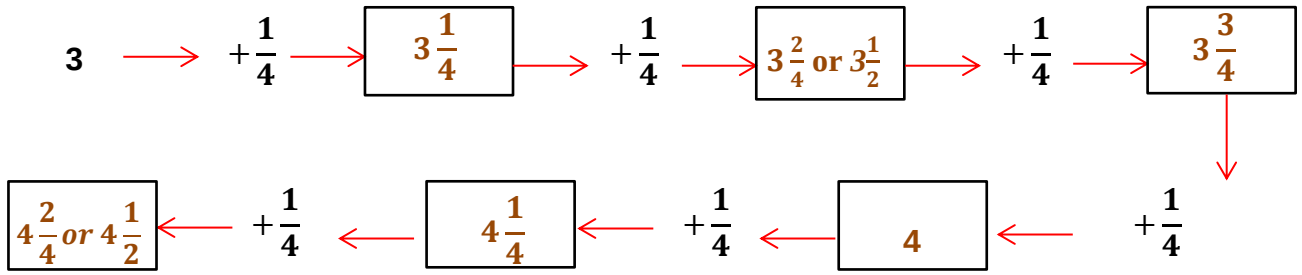
(a)




(b)




(c)




**(2) Add the fractions.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (a) $\frac{1}{4}+\frac{1}{4}=$ | $\frac{2}{4}=\frac{1}{2}$ | (b) $\frac{1}{5}+\frac{3}{5}=$ | $\frac{4}{5}$ | (c) $\frac{1}{3}+\frac{2}{3}=$ | $\frac{3}{3}=1$ |
| (d) $\frac{1}{4}+\frac{3}{4}=$ | $\frac{4}{4}=1$ | (e) $\frac{2}{5}+\frac{2}{5}=$ | $\frac{4}{5}$ | (f) $\frac{3}{6}+\frac{1}{6}=$ | $\frac{4}{6}=\frac{2}{3}$ |
| (g) $\frac{2}{7}+\frac{3}{7}=$ | $\frac{5}{7}$ | (h) $\frac{5}{10}+\frac{1}{10}=$ | $\frac{6}{10}$ *or* $\frac{3}{5}$ | (i) $\frac{4}{8}+\frac{2}{8}=$ | $\frac{6}{8}=\frac{3}{4}$ |
| (j) $\frac{3}{9}+\frac{6}{9}=$ | $\frac{9}{9}=1$ | (k) $\frac{4}{5}+\frac{1}{5}=$ | $\frac{5}{5}=1$ | (l) $\frac{2}{2}+\frac{1}{1}=$ | 2 |
| (m) $\frac{5}{4}+\frac{2}{4}=$ | $\frac{7}{4}=1\frac{3}{4}$ | (n) $\frac{3}{8}+\frac{4}{8}=$ | $\frac{7}{8}$ | (o) $\frac{3}{4}+\frac{4}{4}=$ | $\frac{7}{4}=1\frac{3}{4}$ |

i

## MULTIPLICATION AND DIVISION (Speed test)

**Exercise B1H:** **Date:** _____

### ORDER OF OPERATIONS

**Write down the answer.**

| | | |
|---|---|---|
| (a) 2 x 3 x 8 = 48 | (a) 16 ÷ 4 x 25 = 100 | (a) 6 x 6 + 12 = 48 |
| (b) 3 x 4 ÷ 6 = 2 | (b) 6 x 6 ÷ 6 = 6 | (b) 21 ÷ 3 + 13 = 20 |
| (c) 4 x 6 ÷ 8 = 3 | (c) *64 ÷ 8 x 25 = 200 | (c) 12 + 18 x 20 = 372 |
| (d) 2 x 24 ÷ 4 = 12 | (d) 3 x 4 x 6 = 72 | (d) 40 ÷ 8 x 20 = 100 |
| (e) 7 x 8 + 15 = 71 | (e) 54 ÷ 9 ÷ 2 = 3 | (e) 7 x 8 x 2 = 112 |
| (f) 2 X 15 ÷ 6 = 5 | (f) *5 x 4 x 5 = 100 | (f) 2 x 16 ÷ 0 = undef. |
| (g) 56 ÷ 8 x 3 = 21 | (g) 3 x 8 x 2 = 48 | (g) 52 + 6 x 5 = 82 |
| (h) 2 x 25 ÷ 10 = 5 | (h) *8 x 7 ÷ 2 = 28 | (h) 63 - 84 ÷ 7 = 51 |
| (i) 4 x 3 x 9 = 108 | (i) 32 ÷ 8 x 6 = 24 | (i) 3 x 3 x 3 = 27 |
| (j) 5 x 12 x 2 = 120 | (j) 2 x 8 x 2 ÷ 4 = 8 | (j) 4 x 4 x 4 = 64 |
| **Total:** | **Total:** | **Total:** |

**Total out of 30:**

# MORE DIFFICULT ADDITION AND SIMPLIFICATION

**Exercise 8:** **Date:** _____

**(1) Add the fractions and simplify the answer.**

(a) $\frac{3}{16} + \frac{5}{16} = \frac{8}{16} \div \frac{8}{8} = \frac{1}{2}$

(b) $\frac{4}{15} + \frac{8}{15} = \frac{12}{15} \div \frac{3}{3} = \frac{4}{5}$

(c) $\frac{2}{8} + \frac{2}{8} = \frac{4}{8} \div \frac{4}{4} = \frac{1}{2}$

(d) $\frac{12}{20} + \frac{3}{20} = \frac{15}{20} \div \frac{5}{5} = \frac{3}{4}$

(e) $\frac{11}{18} + \frac{1}{18} = \frac{12}{18} \div \frac{6}{6} = \frac{2}{3}$

(f) $\frac{24}{50} + \frac{6}{50} = \frac{30}{50} \div \frac{10}{10} = \frac{3}{5}$

(g) $\frac{15}{30} + \frac{5}{30} = \frac{20}{30} \div \frac{10}{10} = \frac{2}{3}$

(h) $\frac{6}{12} + \frac{2}{12} = \frac{8}{12} \div \frac{4}{4} = \frac{2}{3}$

(i) $\frac{25}{100} + \frac{35}{100} = \frac{60}{100} \div \frac{20}{20} = \frac{3}{5}$

(j) $\frac{15}{25} + \frac{5}{25} = \frac{20}{25} \div \frac{5}{5} = \frac{4}{5}$

**(2) What fraction has to be added ?**

(a) $\frac{3}{8} + \boxed{\frac{4}{8}} = \frac{7}{8}$

(b) $\frac{3}{6} + \boxed{\frac{3}{6}} = \frac{6}{6}$

(c) $\frac{2}{10} + \boxed{\frac{6}{10}} = \frac{8}{10}$

(d) $\frac{3}{15} + \boxed{\frac{9}{15}} = \frac{12}{15}$

(e) $\frac{2}{5} + \boxed{\frac{3}{5}} = 1$

*(f) $\frac{2}{5} + \boxed{\frac{8}{5}} = 2$

(g) $\frac{2}{10} + \boxed{\frac{7}{10}} = \frac{9}{10}$

(h) $\frac{5}{8} + \boxed{\frac{3}{8}} = 1$

*(i) $\frac{4}{6} + \boxed{\frac{8}{6}} = 2$

(j) $\frac{8}{20} + \boxed{\frac{8}{20}} = \frac{16}{20}$

(k) $\frac{4}{10} + \boxed{\frac{6}{10}} = 1$

*(l) $\frac{1}{2} + \boxed{\frac{3}{2}} = 2$

(m) $\frac{7}{8} + \boxed{\frac{1}{8}} = 1$

(n) $\frac{4}{7} + \boxed{\frac{2}{7}} = \frac{6}{7}$

*(o) $\frac{1}{5} + \boxed{\frac{19}{5}} = 4$

**(3) Add the whole numbers and the fractions.**

(a) $1 + 1\frac{1}{3} = 2\frac{1}{3}$

(b) $1\frac{1}{4} + 1\frac{1}{4} = 2\frac{2}{4} = 2\frac{1}{2}$

(c) $4\frac{1}{5} + 1\frac{3}{5} = 5\frac{4}{5}$

(d) $4\frac{3}{6} + 1\frac{3}{6} = 5\frac{6}{6} = 6$

(e) $4\frac{1}{3} + 1\frac{1}{3} = 5\frac{2}{3}$

(f) $1\frac{2}{8} + 1\frac{1}{8} = 2\frac{3}{8}$

(g) $2\frac{3}{8} + 1\frac{1}{8} = 3\frac{4}{8} = 3\frac{1}{2}$

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

## DIVISION WITH A REMAINDER (Speed test)
## (2x-12x)

**Exercise B1I:** **Date:** _____

**Write down the answer.**

| | | | | | |
|---|---|---|---|---|---|
| (a) 24 ÷ 5 | = | 4 r 4 *or* $4\frac{4}{5}$ | (a) 39 ÷ 8 | = | 4 r 7 *or* $4\frac{7}{8}$ |
| (b) 36 ÷ 8 | = | 4 r 4 *or* $4\frac{4}{8} = 4\frac{1}{2}$ | (b) 44 ÷ 6 | = | 7 r 2 *or* $7\frac{2}{6} = 7\frac{1}{3}$ |
| (c) 72 ÷ 9 | = | 8 | (c) 29 ÷ 7 | = | 4 r 1 *or* $4\frac{1}{7}$ |
| (d) 38 ÷ 7 | = | 5 r 3 *or* $5\frac{3}{7}$ | (d) 35 ÷ 8 | = | 4 r 3 *or* $4\frac{3}{8}$ |
| (e) 49 ÷ 6 | = | 8 r 1 *or* $8\frac{1}{6}$ | (e) 30 ÷ 9 | = | 3 r 3 *or* $3\frac{3}{9} = 3\frac{1}{3}$ |
| (f) 62 ÷ 5 | = | 12 r 2 *or* $12\frac{2}{5}$ | (f) 19 ÷ 4 | = | 4 r 3 *or* $4\frac{3}{4}$ |
| (g) 63 ÷ 4 | = | 15 r 3 *of* $15\frac{3}{4}$ | (g) 61 ÷ 2 | = | 30 r 1 *of* $30\frac{1}{2}$ |
| (h) 58 ÷ 7 | = | 8 r 2 *or* $8\frac{2}{7}$ | (h) 33 ÷ 2 | = | 16 r 1 *or* $16\frac{1}{2}$ |
| (i) 66 ÷ 8 | = | 8 r 2 *or* $8\frac{2}{8} = 8\frac{1}{4}$ | (i) 75 ÷ 6 | = | 12 r 3 *or* $12\frac{3}{6} = 12\frac{1}{2}$ |
| (j) 85 ÷ 9 | = | 9 r 4 *or* $9\frac{4}{9}$ | (j) 46 ÷ 5 | = | 9 r 1 *or* $9\frac{1}{5}$ |
| **Total:** | | | **Total:** | | |

**Total out of 20:**