

Math Review Task

Grade 4

Addition and Subtraction:

Addition mental strategies – number complements

Two numbers that add together are called complements.

12 and 8 are complements to 20 because $12 + 8 = 20$

35 and 65 are complements to 100 because $35 + 65 = 100$

1 Loop the complements in each set:

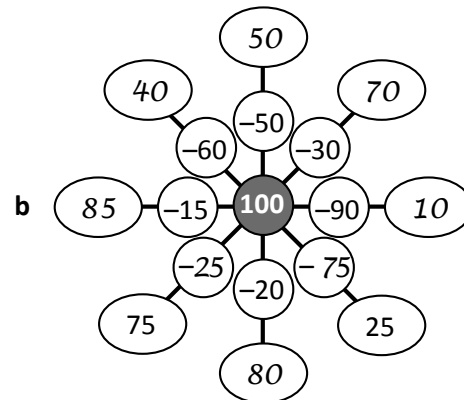
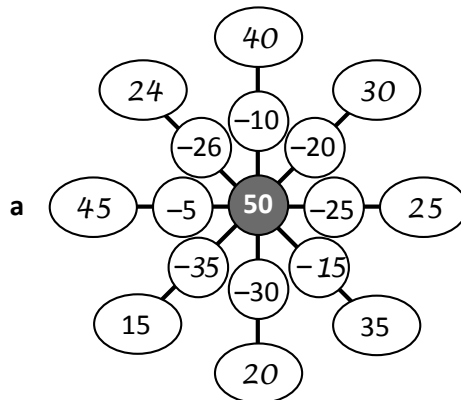
a Complements to 20. There are three to find. The first one has been done for you.

| | | |
|----|----|----|
| 7 | 4 | 14 |
| 10 | 1 | 6 |
| 10 | 12 | 8 |

b Complements to 50. There are eight to find:

| | | | |
|----|----|----|----|
| 26 | 12 | 30 | 20 |
| 24 | 38 | 15 | 35 |
| 17 | 45 | 5 | 40 |
| 33 | 18 | 32 | 10 |

2 Complete these complement webs. Start with the center number and subtract. Write your answers in the ovals:



3 Show how knowing the complements to 20, 50 and 100 makes adding easier. You may want to loop the complements first. The first one has been done for you.

a $(80 + 20) + (15 + 5) = 100 + 20 = 120$

b $(18 + 2) + (30 + 20) + (10 + 10) = 20 + 50 + 20 = 90$

c $(25 + 25) + 40 + (30 + 20) + 10 = 50 + 40 + 50 + 10 = 150$

d $(15 + 35) + (20 + 30) + 10 + 12 = 50 + 50 + 10 + 12 = 122$

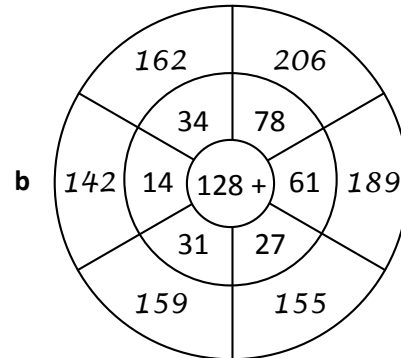
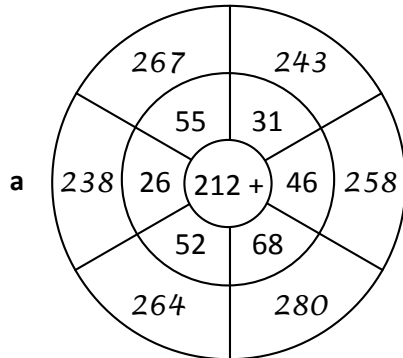
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Addition and Subtraction:

Addition mental strategies – applying the split strategy

1 Complete these addition wheels with the split strategy:



The split strategy is useful when adding three 2 digit numbers.
Try adding tens, then the ones and recording it this way:

$$61 + 43 + 44 = 14 \text{ tens} + 8 \text{ ones} = 140 + 8 = 148$$

2 Record these place value amounts:

a 8 tens =

b 17 tens =

c 15 tens =

d 5 ones =

e 12 tens =

f 16 ones =

3 At circus school, a competition was held to see who could stay on a unicycle the longest. The time was recorded in seconds. Using the split strategy, add up each person's time. The first one has been done for you.

| | Names | Time in seconds | Working | Total in seconds |
|---|--------|-----------------|------------------|------------------|
| a | Lizzie | 22, 14, 3 | 3 tens + 9 ones | 39 |
| b | Dan | 23, 4, 11 | 3 tens + 8 ones | 38 |
| c | Lily | 21, 6, 14 | 3 tens + 11 ones | 41 |
| d | Jo | 20, 8, 12 | 3 tens + 10 ones | 40 |
| e | Julio | 4, 22, 12 | 3 tens + 8 ones | 38 |



The winner is:

Lily

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Addition and Subtraction:

Addition mental strategies – compensation strategy

Sometimes we round one number in the problem to make it easier to do in our heads. Then we adjust our answer to compensate:

$$\begin{array}{rcl} 23 + 19 & = & \boxed{42} \\ 23 + 20 & \overset{\text{---}1}{\text{---}} & \text{I rounded up by 1,} \\ 43 & \overset{\text{---}1}{\text{---}} & = 42 \text{ so I subtract 1.} \end{array}$$

1 Practice rounding:

a $\boxed{148} \rightarrow \boxed{150}$ b $\boxed{39} \rightarrow \boxed{40}$ c $\boxed{47} \rightarrow \boxed{50}$
d $\boxed{109} \rightarrow \boxed{110}$ e $\boxed{96} \rightarrow \boxed{100}$ f $\boxed{199} \rightarrow \boxed{200}$

2 Use the compensation method with these problems. Round the second number up to the closest ten. Compensate by subtracting.

a $32 + 29 = \boxed{61}$
 $32 + 30 \overset{\text{---}1}{\text{---}}$
 $\underline{62} \overset{\text{---}1}{\text{---}} = \boxed{61}$

b $55 + 38 = \boxed{93}$
 $55 + 40 \overset{\text{---}2}{\text{---}}$
 $\underline{95} \overset{\text{---}2}{\text{---}} = \boxed{93}$

c $66 + 19 = \boxed{85}$
 $66 + 20 \overset{\text{---}1}{\text{---}}$
 $\underline{86} \overset{\text{---}1}{\text{---}} = \boxed{85}$

d $22 + 39 = \boxed{61}$
 $22 + 40 \overset{\text{---}1}{\text{---}}$
 $\underline{62} \overset{\text{---}1}{\text{---}} = \boxed{61}$

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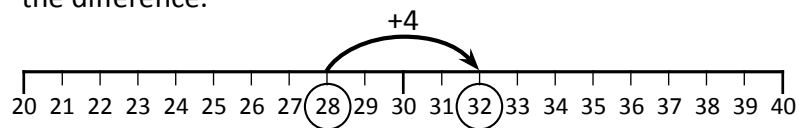
Mathletics

Addition and Subtraction:

Subtraction mental strategies – subtraction strategy review

Look for patterns: $6 - 2 = 4$ so $60 - 20 = 40$ and $600 - 200 = 400$
 $72 - 9 = 63$ so $62 - 9 = 53$ and $52 - 9 = 43$

Count: When numbers are close together, you can count up to find the difference.



Complements: $35 + 65 = 100$ so $100 - 35 = 65$
 $12 + 8 = 20$ so $20 - 8 = 12$

Near doubles: See: $15 - 7$ Think: $(14 - 7) + 1$

- 1 This hundred grid makes it easier to see subtraction patterns. Use it to complete the sets.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Set 1

$$\begin{array}{l} 17 - 9 = 8 \\ 27 - 9 = 18 \\ 37 - 9 = 28 \\ 47 - 9 = 38 \\ 57 - 9 = 48 \\ 67 - 9 = 58 \end{array}$$

Set 2

$$\begin{array}{l} 21 - 6 = 15 \\ 31 - 6 = 25 \\ 41 - 6 = 35 \\ 51 - 6 = 45 \\ 61 - 6 = 55 \\ 71 - 6 = 65 \end{array}$$

- 2 Extend these subtractions according to the patterns:

| | | | |
|---|----------------|-------------------|-------------------------|
| a | $9 - 6 = 3$ | $90 - 60 = 30$ | $900 - 600 = 300$ |
| b | $14 - 8 = 6$ | $140 - 80 = 60$ | $1,400 - 800 = 600$ |
| c | $24 - 14 = 10$ | $240 - 140 = 100$ | $2,400 - 1,400 = 1,000$ |
| d | $69 - 32 = 37$ | $690 - 320 = 370$ | $6,900 - 3,200 = 3,700$ |

Math Review Task

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Addition and Subtraction:

Subtraction mental strategies – subtraction strategy review

3 Use counting up to complete these:

a $32 - 29 =$

b $33 - 28 =$

c $34 - 27 =$

d $71 - 68 =$

e $82 - 76 =$

f $73 - 69 =$

g $83 - 77 =$

h $112 - 109 =$

i $201 - 196 =$

4 Complete these function tables using counting up:

a

| In | Rule | Out |
|-----|--------------|-----|
| 120 | - 118 | 2 |
| 123 | | 5 |
| 126 | | 8 |
| 124 | | 6 |

b

| In | Rule | Out |
|-----|-------------|-----|
| 102 | - 96 | 6 |
| 104 | | 8 |
| 108 | | 12 |
| 101 | | 5 |

c

| In | Rule | Out |
|----|-------------|-----|
| 87 | - 78 | 9 |
| 81 | | 3 |
| 85 | | 7 |
| 83 | | 5 |

5 Complete this cross number puzzle. Using complements to 100 will help.

| | | | | | | | | |
|-----------------|----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|
| ¹ 2 | 0 | | ² 1 | 1 | | ³ 9 | 5 | |
| 2 | | ⁴ 7 | 2 | | ⁵ 7 | 8 | | ⁶ 8 |
| | ⁷ 3 | 6 | | ⁸ 5 | 1 | | ⁹ 3 | 9 |
| ¹⁰ 4 | 8 | | ¹¹ 3 | 4 | | ¹² 2 | 5 | |

Across

1 $100 - 80 =$

2 $100 - 89 =$

3 $100 - 5 =$

4 $100 - 28 =$

5 $100 - 22 =$

7 $100 - 64 =$

8 $100 - 49 =$

9 $100 - 61 =$

10 $100 - 52 =$

11 $100 - 66 =$

12 $100 - 75 =$

Down

1 $100 - 78 =$

2 $100 - 88 =$

3 $100 - 2 =$

4 $100 - 24 =$

5 $100 - 29 =$

6 $100 - 11 =$

7 $100 - 62 =$

8 $100 - 46 =$

9 $100 - 65 =$

Math Review Task

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Addition and Subtraction:

Written methods – 3 digit addition with regrouping

e: 730

| | H | T | O |
|---|---|---|---|
| | 5 | 3 | 4 |
| + | 1 | 9 | 7 |
| | 7 | 3 | 1 |

This is the written method for addition when regrouping.

First, estimate the answer to the nearest ten:

$$530 + 200 = 730$$

Add the ones: $4 + 7 = 11$ ones.

Think of this as 1 ten and 1 one.

Write the 1 in the ones column and put the 1 in the tens column.

Add the tens: $3 + 9 + 1 = 13$ tens.

Write 3 in the tens column and 1 in the hundreds column.

Add the hundreds: $5 + 1 + 1 = 7$ hundreds.

Is our answer reasonable? Yes, because it's close to our estimate.

- 1 Practice estimating answers by rounding to the nearest ten. The first one has been done for you.

| | Question | Estimate |
|---|-------------|-------------------|
| a | $682 + 179$ | $680 + 180 = 860$ |
| c | $359 + 222$ | $360 + 220 = 580$ |
| e | $587 + 398$ | $590 + 400 = 990$ |
| g | $189 + 108$ | $190 + 110 = 300$ |

| | Question | Estimate |
|---|-------------|---------------------|
| b | $271 + 119$ | $270 + 120 = 390$ |
| d | $378 + 119$ | $380 + 120 = 500$ |
| f | $412 + 98$ | $410 + 100 = 510$ |
| h | $911 + 207$ | $910 + 210 = 1,120$ |

- 2 Add these 3 digit numbers using the written method. First, estimate to the nearest ten.

e: 570

| | H | T | O |
|---|---|---|---|
| a | 3 | 5 | 4 |
| + | 2 | 1 | 7 |
| | 5 | 7 | 1 |

e: 840

| | H | T | O |
|---|---|---|---|
| b | 6 | 2 | 8 |
| + | 2 | 1 | 3 |
| | 8 | 4 | 1 |

e: 590

| | H | T | O |
|---|---|---|---|
| c | 3 | 6 | 4 |
| + | 2 | 2 | 8 |
| | 5 | 9 | 2 |

Continued on page 29.

Math Review Task

Grade 4

Addition and Subtraction:

Written methods – 3 digit addition with regrouping

Continued from page 28.

2 Add these 3 digit numbers using the written method:

| | |
|----|---------------------------------|
| e: | 400 |
| | H T O |
| d | ¹ 2 ¹ 6 3 |
| + | 1 3 9 |
| | 4 0 2 |

| | |
|----|---------------------------------|
| e: | 800 |
| | H T O |
| e | ¹ 3 ¹ 4 4 |
| + | 4 5 9 |
| | 8 0 3 |

| | |
|----|---------------------------------|
| e: | 500 |
| | Th H T O |
| f | ¹ 2 ¹ 5 2 |
| + | 2 4 9 |
| | 5 0 1 |

| | |
|----|---------------------------------|
| e: | 810 |
| | Th H T O |
| g | ¹ 2 ¹ 6 2 |
| + | 5 4 9 |
| | 8 1 1 |

| | |
|----|---------------------------------|
| e: | 920 |
| | Th H T O |
| h | ¹ 6 ¹ 2 9 |
| + | 2 8 9 |
| | 9 1 8 |

| | |
|----|---------------------------------|
| e: | 740 |
| | Th H T O |
| i | ¹ 3 ¹ 4 9 |
| + | 3 8 7 |
| | 7 3 6 |

3 Solve these word problems using the written method:

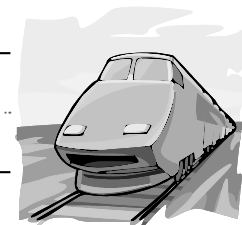
- a At a muffin shop, 456 banana choc chip muffins were sold on Saturday and 458 caramel chunk muffins were sold on Sunday. How many muffins were sold that weekend?

| | |
|---|---------------------------------|
| | H T O |
| | ¹ 4 ¹ 5 6 |
| + | 4 5 8 |
| | 9 1 4 |



- b A train left the station with 389 people on board and then another 678 people got on over the next three stops. How many passengers were on the train altogether?

| | |
|---|---------------------------------|
| | Th H T O |
| | ¹ 3 ¹ 8 9 |
| + | 6 7 8 |
| | 1 0 6 7 |



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Addition and Subtraction:

Money – finding change

When you buy something and you don't have the exact combination of bills and coins, you can pay with a larger amount and get the difference back. This is called change.

If I paid for these flowers with \$20, my change would be \$8.



- 1** Find the change for each amount below. You could bridge to the next dollar and count up or use a written subtraction. Show all your workings:

a I had \$100. I spent \$68.

Workings will vary.

Change =

b I had \$50. I spent \$22.

Change =

c I had \$20. I spent \$16.50.

Change =

d I had \$120. I spent \$60.

Change =

e I had \$100. I spent \$75.

Change =

f I had \$50. I spent \$42.

Change =

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Chance and Data:

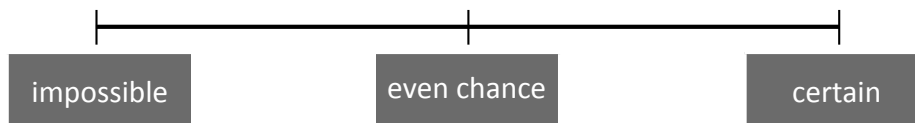
Chance – ordering events

Chance is the likelihood of something happening.

If something will definitely happen, we say it is certain.

If something has an even chance of happening, it means that it is just as likely to happen as it is unlikely to happen.

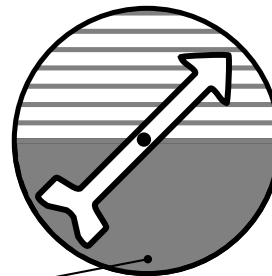
If something can't happen it is impossible.



1 Read each statement and circle the chance of it happening:

| | Event | Chance |
|---|---|------------------------------------|
| a | A baby is born a girl. | impossible / <u>even</u> / certain |
| b | Christmas Day will fall on December 25 this year. | impossible / even / <u>certain</u> |
| c | A coin is tossed and the result is a tail. | impossible / <u>even</u> / certain |
| d | 6 red counters are placed in a bag and a yellow one is drawn. | <u>impossible</u> / even / certain |

2 Draw a line to match each spinner to the correct statement:



There is an even chance that this spinner will land on stripes.


It is certain that this spinner will land on stripes.

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Chance and Data:

Data – tallies

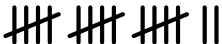
The tally method is where we count in 5s. We put a stroke for each number and the fifth one is a line that goes diagonally through. 

1 Find the total of each tally amount:

a 




b 

c 

d 

2 Molly is keeping a training diary where she records the laps she runs around the oval near her house. Redo this data using the tally method.



| Molly's training | |
|------------------|--|
| Monday | |
| Wednesday | |
| Friday | |

| Molly's training | |
|------------------|---|
| Monday |  |
| Wednesday |  |
| Friday |  |

3 A movie theatre collected data on the number of kids and adults that attended a recent movie screening. A kid's ticket is all ages up to 15 and an adult's ticket is 16 and above.

| Ages of ticket buyers | | | | | | | | | | |
|-----------------------|----|----|----|----|----|----|----|----|----|----|
| 40 | 12 | 19 | 42 | 36 | 25 | 9 | 12 | 12 | 40 | 14 |
| 8 | 21 | 30 | 10 | 14 | 28 | 30 | 15 | 7 | 27 | 10 |
| 9 | 25 | 5 | 32 | 15 | 8 | 16 | 19 | 36 | 12 | 18 |

a Count how many kids' tickets and how many adults' tickets were sold using the tally method in this table:

| Type of ticket | Amount sold |
|----------------|--|
| Kids |  |
| Adults |  |

b Why do you think they conducted this survey?

Answers will vary.

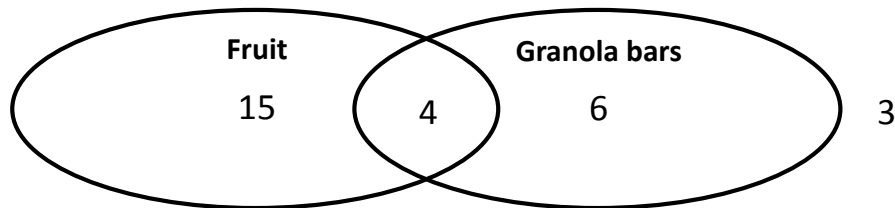
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Chance and Data:

Data – Venn diagrams

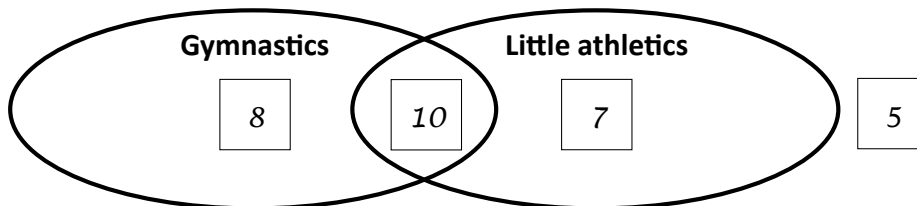
A Venn diagram also shows lots of information in a small space.
This Venn diagram shows what 4S eat at recess.



This shows us that:

- 15 kids just eat fruit
- 6 kids just eat granola bars
- 4 kids eat both fruit and granola bars
- 3 kids eat neither fruit or granola bars
- there are 28 kids in 4S.

1 Use the clues listed to complete the Venn diagram:



Clues:

30 kids were surveyed about which after-school activity they would prefer, gymnastics or little athletics.

- 10 kids want to do both
- 5 kids don't want to do either sport
- 8 kids want to do gymnastics.

We haven't said how many just wanted to do little athletics but you can work it out from the clues.

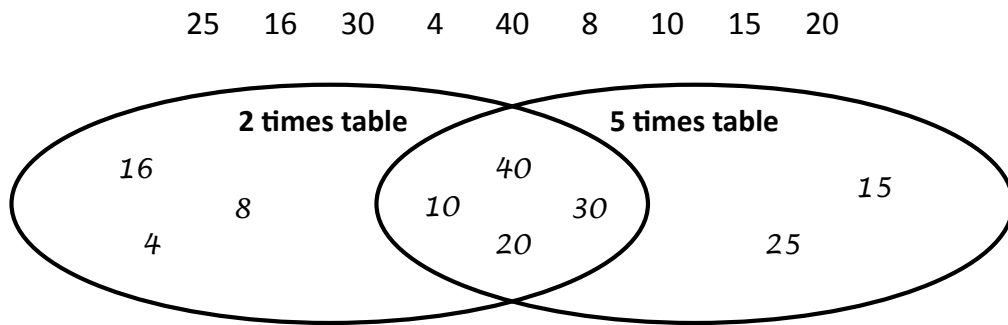
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Chance and Data:

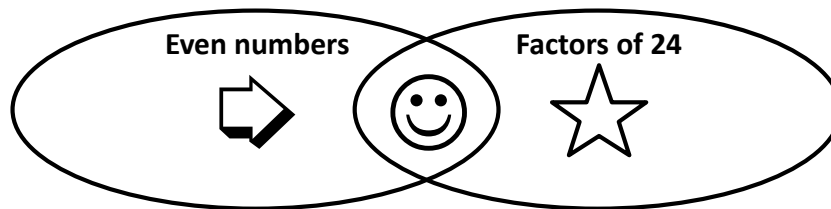
Data – Venn diagrams

2 Place these numbers in the Venn diagram:



3 Show where these numbers go in the Venn diagram by listing them next to the matching symbol:

16 2 20 8 3 12 10 4 40 6 24 1



16 20 10 40



2 8 12 4 6 24



3 1

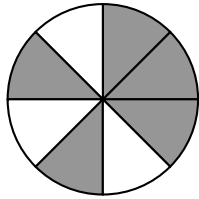
Math Review Task

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Fractions:

Working with fractions – modeling fractions

A fraction is a part of a whole. This circle had been divided into 8 pieces and has 5 pieces shaded.

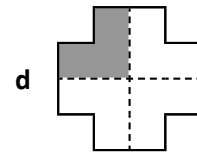
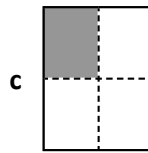
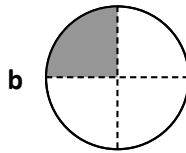
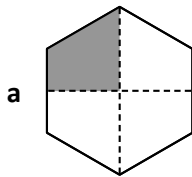


$$\frac{5}{8} = \frac{5 \text{ shaded parts}}{8 \text{ parts altogether}}$$

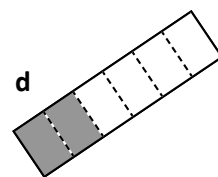
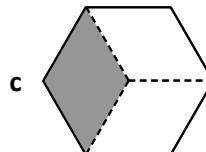
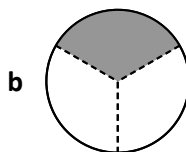


The top number is the numerator, the bottom number is the denominator.

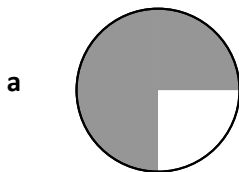
1 Divide each shape into quarters. Shade one quarter:



2 Shade one third on each shape:



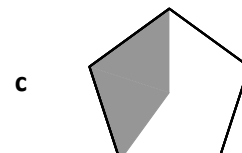
3 What fraction is shaded?



Fraction shaded $\frac{3}{4}$

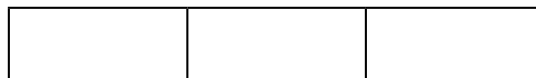


Fraction shaded $\frac{2}{6}$



Fraction shaded $\frac{2}{5}$

4 If this is $\frac{1}{3}$ of a shape, what does the whole shape look like?



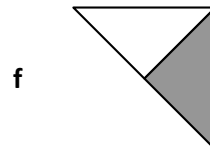
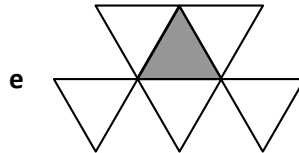
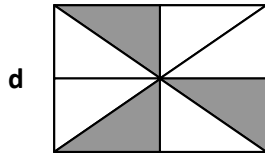
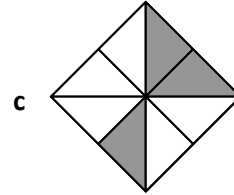
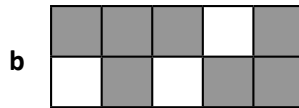
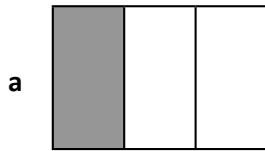
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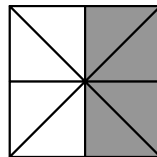
Fractions:

Working with fractions – modeling fractions

5 Complete the table for each shape.



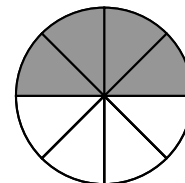
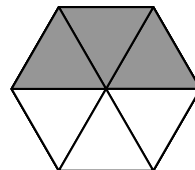
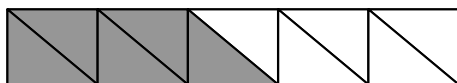
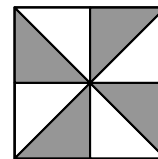
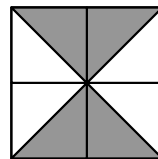
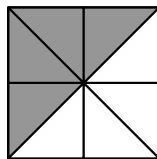
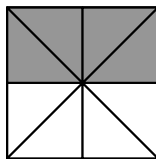
| Shape | a | b | c | d | e | f |
|---------------------------|---------------|----------------|---------------|---------------|---------------|---------------|
| Fraction that is shaded | $\frac{1}{3}$ | $\frac{7}{10}$ | $\frac{3}{8}$ | $\frac{3}{8}$ | $\frac{1}{6}$ | $\frac{1}{2}$ |
| Fraction that is unshaded | $\frac{2}{3}$ | $\frac{3}{10}$ | $\frac{5}{8}$ | $\frac{5}{8}$ | $\frac{5}{6}$ | $\frac{1}{2}$ |



This shape has 8 pieces. To show half, I have shaded 4 pieces.

6 How many different ways can you show a half?

Answers will vary.



Math Review Task

Grade 4

Mathletics

Fractions:

Working with fractions – fraction word problems

- 1 Jess spent half of her pocket money on a magazine. If she gets \$10 pocket money, how much was the magazine?

$$\frac{1}{2} \text{ of } \$10 = \$5 \text{ or } \$10 \div 2 = \$5$$

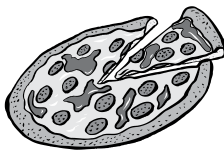
\$5

- 2 If one quarter of a packet of candies is 8 candies, how many candies are there in the whole packet?

$$8 \times 4 = 32$$

32 candies

- 3 Marley and Matt shared a pizza that had been cut into 8 pieces. Marley ate $\frac{1}{4}$ of the pizza and Matt ate $\frac{1}{2}$. How many pieces were left?



Marley ate $\frac{1}{4}$ of 8 = 2 pieces

Matt ate $\frac{1}{2}$ of 8 = 4 pieces

$$8 - 6 = 2$$

2 pieces left

- 4 Amy made 24 cupcakes. She iced $\frac{1}{8}$ of them pink, $\frac{1}{4}$ of them blue and left the rest plain. How many plain cupcakes were there?

$\frac{1}{8}$ of 24 = 3 pink cupcakes

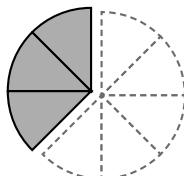
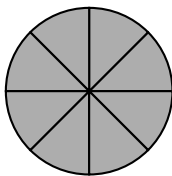
$\frac{1}{4}$ of 24 = 6 blue cupcakes

$$24 - 9 = 15$$



15 plain cupcakes

- 5 Josie ordered two pizzas cut into eighths. If he ate $\frac{5}{8}$ of a pizza, how much was left?



So $1\frac{3}{8}$ is left.

$1\frac{3}{8}$ pizzas

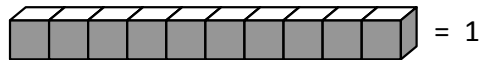
Math Review Task

Grade 4

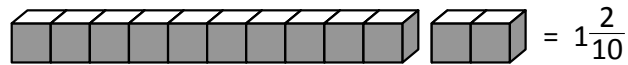
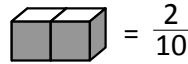
Fractions:

Types of fractions – mixed numbers

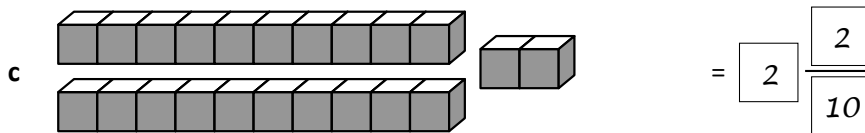
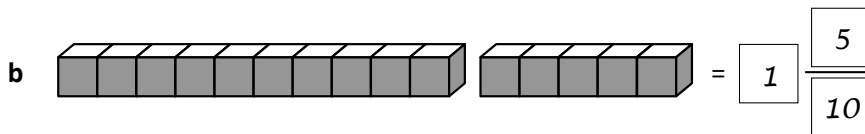
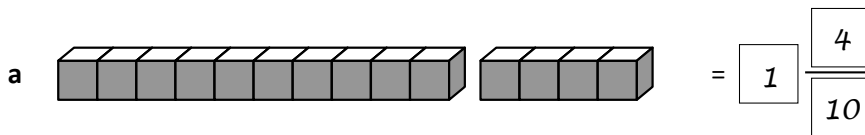
A mixed number is a whole number and a fraction. For example, say we connected 10 multilink cubes and named this as 1 whole.



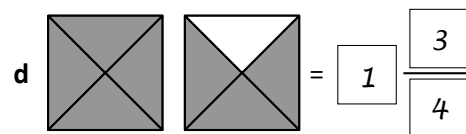
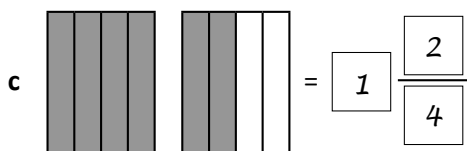
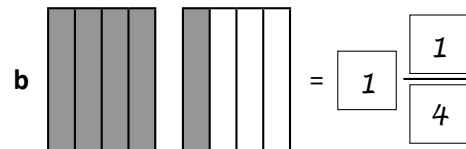
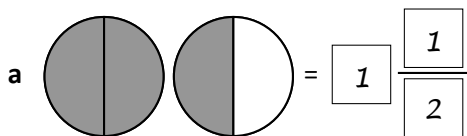
If we then picked up 2 more multilink cubes we have another 2 tenths.



- 1 In each of these problems, 10 multilink cubes represent 1 whole. Write the mixed number for each set of multilink cubes.



- 2 Write the mixed numbers that these fraction models are showing:



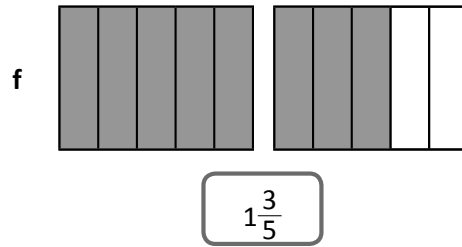
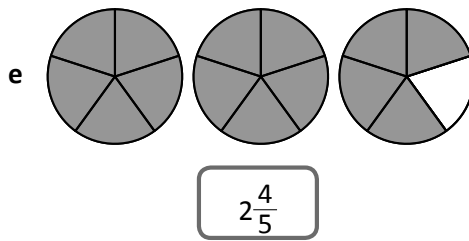
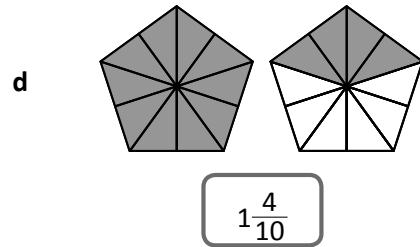
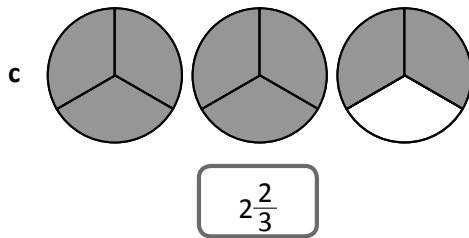
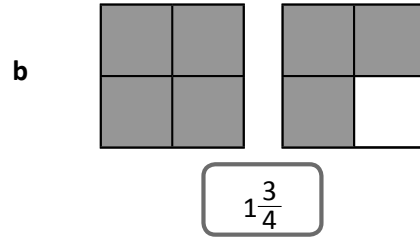
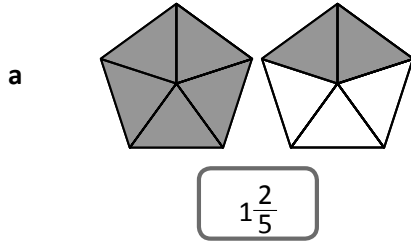
Math Review Task

Grade 4

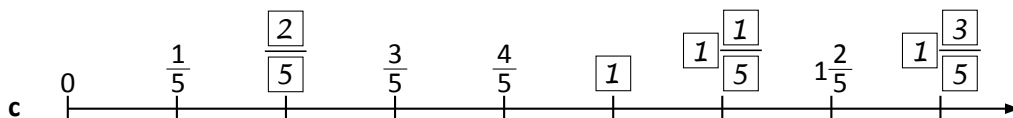
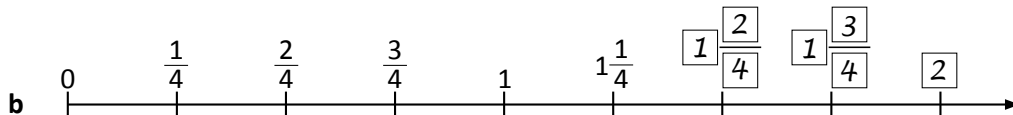
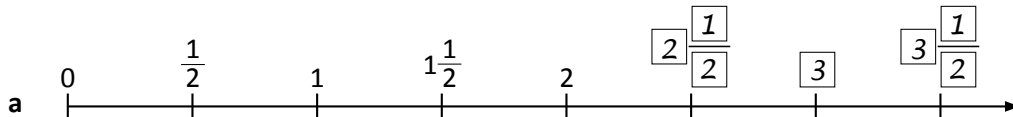
Fractions:

Types of fractions – mixed numbers

3 Shade these fraction models to show the mixed numbers: *Answers will vary.*



4 Complete these number lines:



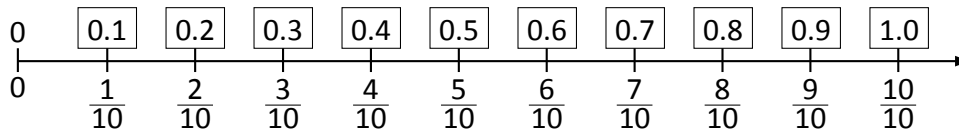
Math Review Task

Grade 4

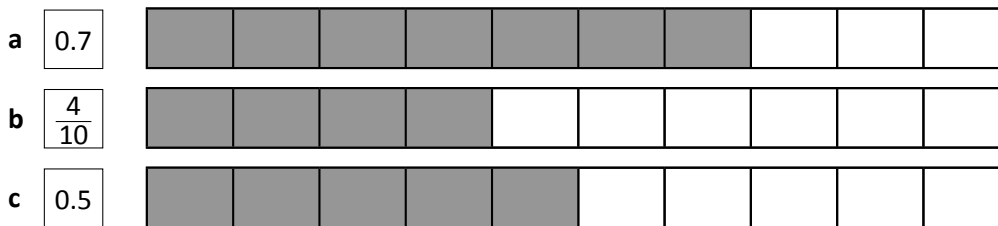
Fractions:

Fractions, decimals and percentages – writing tenths as decimals

Tenths are written as decimals like this:



1 Shade the fraction strips so each one matches the fraction or the decimal:



2 Order each set of fractions and decimals from smallest to largest:

a $0.8, 0.2, \frac{4}{10}, \frac{9}{10}$

b $\frac{9}{10}, 0.1, 1.0, \frac{5}{10}$

$0.2, \frac{4}{10}, 0.8, \frac{9}{10}$ _____

$0.1, \frac{5}{10}, \frac{9}{10}, 1.0$ _____

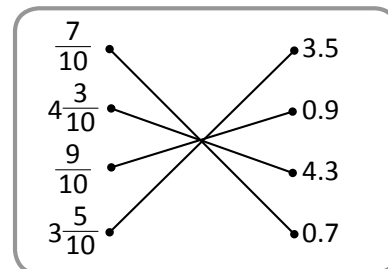
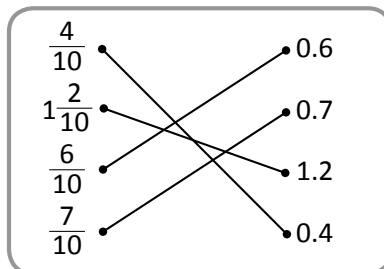
3 Show the place value of these decimals by writing them in the table:

| | Ones | Tenths | |
|---|------|--------|---|
| a | 0.6 | 0 | 6 |
| b | 2.7 | 2 | 7 |
| c | 5.1 | 5 | 1 |



The decimal point signals the place value of numbers smaller than 1.
This number is 3 and $\frac{8}{10}$ or 3 and 0.8.

4 Connect the matching fractions and decimals:



Math Review Task

Grade 4

Fractions:

Fractions, decimals and percentages – writing tenths as decimals

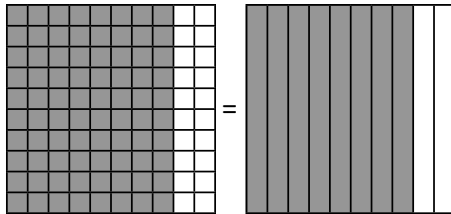
1 whole = 100 hundredths = 10 tenths

$\frac{60}{100}$ is the same amount as $\frac{6}{10}$.

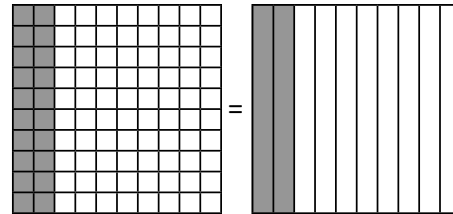
We can divide a whole into one hundred parts. These are called hundredths. Hundredths are made up of 10 lots of tenths.

1 Show how these amounts are the same:

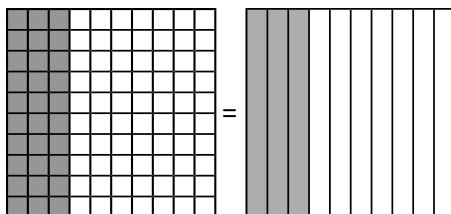
a $\frac{80}{100}$ is the same amount as $\frac{8}{10}$.



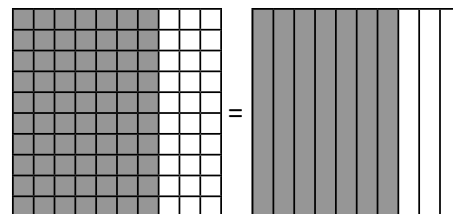
b $\frac{20}{100}$ is the same amount as $\frac{2}{10}$.



c $\frac{30}{100}$ is the same amount as $\frac{3}{10}$.

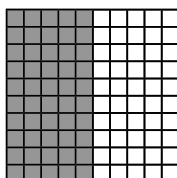


d $\frac{70}{100}$ is the same amount as $\frac{7}{10}$.

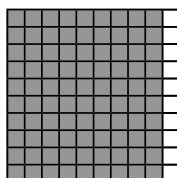


2 Shade these amounts on the hundred grids:

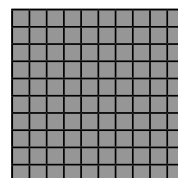
a $\frac{5}{10}$



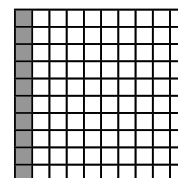
b $\frac{9}{10}$



c $\frac{10}{10}$



d $\frac{1}{10}$



Math Review Task

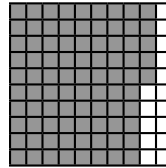
Grade 4

Fractions:

Fractions, decimals and percentages – introducing percentages

A percentage is an amount out of 100.

$$\frac{85}{100} = 85\%$$



1 Color this hundred square according to the directions:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| G | P | B | B | O | O | Y | Y | R | R |
| G | P | B | B | O | O | Y | Y | R | R |
| G | P | B | B | O | O | Y | | R | R |
| G | P | B | B | O | O | Y | | R | R |
| G | P | B | | O | O | Y | | R | R |
| G | P | B | | O | O | Y | | R | R |
| G | P | B | | O | O | Y | | R | R |
| | P | B | | O | O | Y | | R | R |
| | P | B | | O | O | Y | | R | R |

- a 8% green
- b 10% pink
- c 15% brown
- d 20% orange
- e 12% yellow
- f 20% red
- g Leave the rest blank.

What percentage is this?

15%

2 The most commonly used percentage amounts are in the table below. Complete the table and shade a hundredth grid for each amount. The first one has been done for you.

| | a | b | c | d | e |
|----------------|------------------|------------------|------------------|------------------|---------------------------------|
| Percentage | 50% | 25% | 10% | 75% | 20% |
| Hundredths | $\frac{50}{100}$ | $\frac{25}{100}$ | $\frac{10}{100}$ | $\frac{75}{100}$ | $\frac{20}{100}$ |
| Decimal | 0.5 | 0.25 | 0.1 | 0.75 | 0.2 |
| Fraction | $\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{1}{10}$ | $\frac{3}{4}$ | $\frac{2}{10}$ or $\frac{1}{5}$ |
| Hundredth grid | | | | | |

Math Review Task

Grade 4

Fractions:

Fractions, decimals and percentages – introducing percentages

- 3 Often you can see percentages in shops when it is sale time. Work out the sale price of these items:



a \$50
Sale price: \$25

b \$24
Sale price: \$12

c \$60
Sale price: \$30

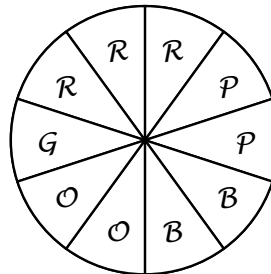
d \$30
Sale price: \$15

e \$200
Sale price: \$100

- 4 Pie charts are used to show information clearly and are often color coded. Complete the pie charts according to the information. Each whole pie chart is 100% and each segment is 10%. Choose a color for each bit of information.

a 100 people were surveyed about their favorite weekend activities.

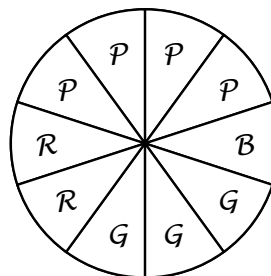
- R Go to a restaurant.... 30%
- G Go to the beach 10%
- O See a movie..... 20%
- B Go shopping..... 20%
- P Play sport 20%



A percentage is an amount out of 100, so $\frac{60}{200}$ would be the same as $\frac{30}{100}$.

b 200 people were surveyed about their favorite food.

- P Pizza 80
- R Hamburgers 40
- G Pasta..... 60
- B Curry 20



Math Review Task

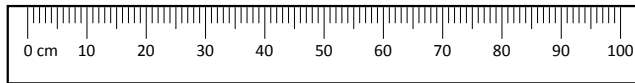
Grade 4

Length, Area and Perimeter:

Units of length – meters and centimeters

We use meters, centimeters and millimeters regularly in everyday life. There are 100 centimeters in 1 meter. Another way to think about this relationship is that 1 centimeter is one hundredth of a meter.

$$100 \text{ cm} = 1 \text{ m} \quad 1 \text{ cm} = \frac{1}{100} \text{ m or } 0.01 \text{ m} \quad \text{So } \frac{1}{2} \text{ m} = 50 \text{ cm} = 0.5 \text{ m}$$



1 Convert each meter measurement into centimeters:

a $2 \text{ m} = \boxed{200} \text{ cm}$ b $4 \text{ m} = \boxed{400} \text{ cm}$ c $\frac{1}{4} \text{ m} = \boxed{25} \text{ cm}$
 d $9 \text{ m} = \boxed{900} \text{ cm}$ e $\frac{1}{2} \text{ m} = \boxed{50} \text{ cm}$ f $1\frac{1}{4} \text{ m} = \boxed{125} \text{ cm}$

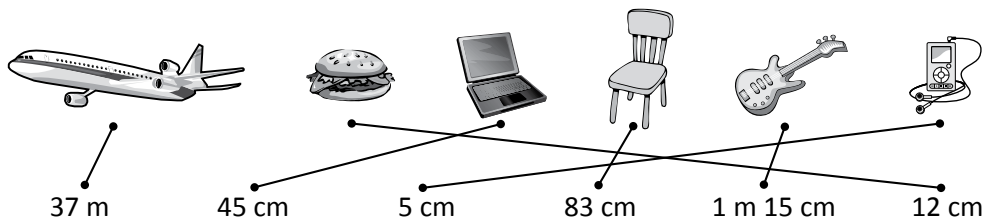
2 Convert each centimeter measurement to meters:

a $10 \text{ cm} = \boxed{0.1} \text{ m}$ b $30 \text{ cm} = \boxed{0.3} \text{ m}$ c $90 \text{ cm} = \boxed{0.9} \text{ m}$
 d $50 \text{ cm} = \boxed{0.5} \text{ m}$ e $75 \text{ cm} = \boxed{0.75} \text{ m}$ f $80 \text{ cm} = \boxed{0.8} \text{ m}$

3 Estimate and measure three things that fit in each category:

| | Estimate in cm | Measure in cm |
|-----------------------------|---------------------------|---------------|
| a About $\frac{1}{2}$ meter | | |
| b About $\frac{3}{4}$ meter | <i>Answers will vary.</i> | |
| c About 1 meter | | |

4 Match these objects to their correct measurement by connecting them with a line:



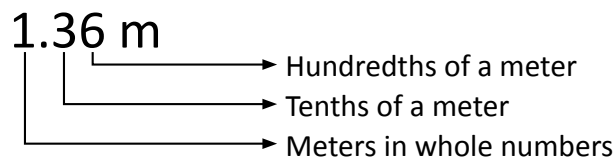
Math Review Task

Grade 4

Length, Area and Perimeter:

Units of length – length and decimal notation

When we measure things that are in meters and centimeters it is useful to record such lengths in decimal notation. Remember that $1 \text{ cm} = \frac{1}{100} \text{ m}$. This can be written as 0.01 m . So if we measure something that is 1 meter and 36 centimeters long, we would write it like this:



1 Write the measurements in decimal form:

- a 1 meter 69 centimeters = m b 2 meters 91 centimeters = m
c 3 meters 23 centimeters = m d 34 centimeters = m
e 9 meters 4 centimeters = m f 5 meters 9 centimeters = m

2 Write these centimeters as meters using decimal notation:

- a 416 cm = m b 319 cm = m c 567 cm = m
d 607 cm = m e 510 cm = m f 4 cm = m

3 Write these measurements as centimeters:

- a 9.34 m = cm b 3.45 m = cm c 6.07 m = cm
d 5.47 m = cm e 0.94 m = cm f 9.51 m = cm

4 Draw lines for the following measurements. Make sure you start each line on the dot and keep each line parallel to the top of the page.

- a 0.07 m •—————
b 0.14 m •—————
c 0.02 m •—————

Math Review Task

Grade 4

Length, Area and Perimeter:

Units of length – millimeters

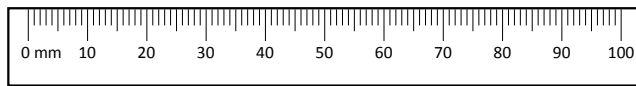
We use meters, centimeters and millimeters regularly in everyday life. You should learn these millimeter facts:

1 centimeter = 10 millimeters

$$1 \text{ cm} = 10 \text{ mm}$$

$$45 \text{ mm} = 4 \text{ cm } 5 \text{ mm}$$

$$45 \text{ mm} = 4.5 \text{ cm}$$



- 1 Estimate and measure these objects in millimeters: *Answers will vary.*

| | Object | Estimate | Millimeters |
|---|---------------------|----------|-------------|
| a | Width of your thumb | | |
| b | Length of your hand | | |
| c | Length of a grape | | |

- 2 Convert these centimeter measurements into millimeters:

a $4 \text{ cm} = 40 \text{ mm}$ b $3 \text{ cm} = 30 \text{ mm}$ c $10 \text{ cm} = 100 \text{ mm}$

d $6\frac{1}{2} \text{ cm} = 65 \text{ mm}$ e $7 \text{ cm} = 70 \text{ mm}$ f $\frac{1}{2} \text{ cm} = 5 \text{ mm}$

- 3 Write these as centimeters and millimeters:

a $17 \text{ mm} = 1 \text{ cm } 7 \text{ mm}$ b $29 \text{ mm} = 2 \text{ cm } 9 \text{ mm}$

c $42 \text{ mm} = 4 \text{ cm } 2 \text{ mm}$ d $36 \text{ mm} = 3 \text{ cm } 6 \text{ mm}$

- 4 Write these measurements as centimeters:

a $12 \text{ mm} = 1.2 \text{ cm}$ b $46 \text{ mm} = 4.6 \text{ cm}$

c $63 \text{ mm} = 6.3 \text{ cm}$ d $48 \text{ mm} = 4.8 \text{ cm}$

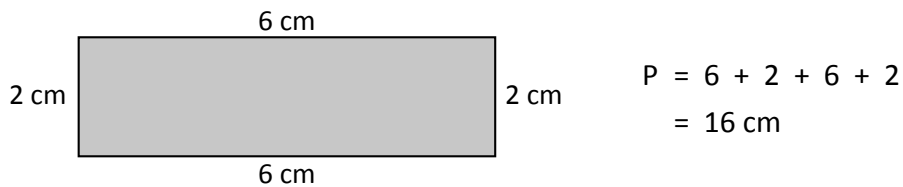
Math Review Task

Grade 4

Length, Area and Perimeter:

Perimeter – measuring shapes

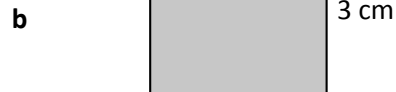
Perimeter is the total length around the outside of an enclosed space.
To find the perimeter of this shape, we add the lengths of all the sides.



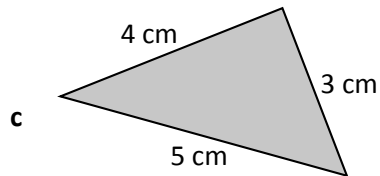
1 Find the perimeters of these shapes:



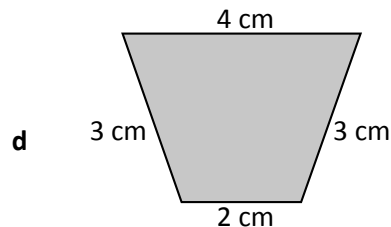
$$P = \underline{6} + \underline{1} + \underline{6} + \underline{1}$$
$$= \underline{14} \text{ cm}$$



$$P = \underline{3} + \underline{3} + \underline{3} + \underline{3}$$
$$= \underline{12} \text{ cm}$$

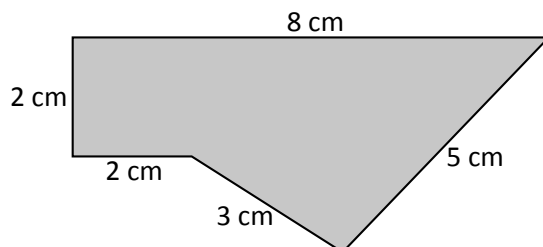


$$P = \underline{4} + \underline{3} + \underline{5}$$
$$= \underline{12} \text{ cm}$$



$$P = \underline{4} + \underline{3} + \underline{2} + \underline{3}$$
$$= \underline{12} \text{ cm}$$

2 Find the perimeter of this shape. Set your working out clearly.



$$8 + 5 + 3 + 2 + 2$$
$$= 20 \text{ cm}$$

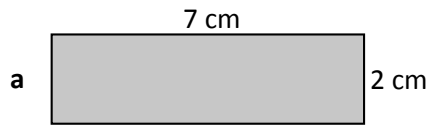
Math Review Task

Grade 4

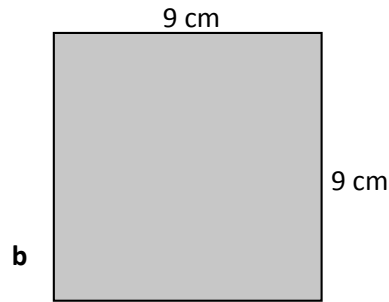
Length, Area and Perimeter:

Perimeter – calculating perimeter

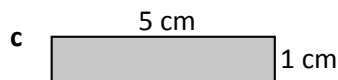
- 1 Use what you know about squares and rectangles to work out the perimeter of these shapes. Measuring will not help because they are not to scale. Look carefully at the dimensions.



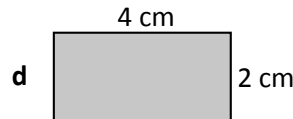
P = cm



P = cm

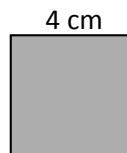


P = cm

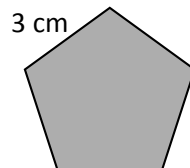


P = cm

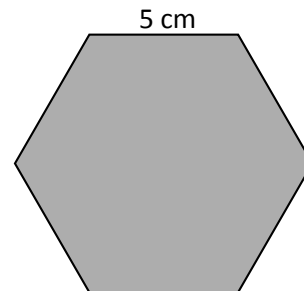
- 2 Show how to find the perimeter of these shapes with an addition sentence and a multiplication sentence for each. Shape A has been done for you.



Shape A



Shape B



Shape C

| Shape | Perimeter by addition | Perimeter by multiplication |
|-------|---|---|
| A | $4 + 4 + 4 + 4 = 16 \text{ cm}$ | $4 \text{ sides} \times 4 \text{ cm} = 16 \text{ cm}$ |
| B | $3 + 3 + 3 + 3 + 3 = 15 \text{ cm}$ | $5 \text{ sides} \times 3 \text{ cm} = 15$ |
| C | $5 + 5 + 5 + 5 + 5 + 5 = 30 \text{ cm}$ | $6 \text{ sides} \times 5 \text{ cm} = 30 \text{ cm}$ |

Math Review Task

Grade 4

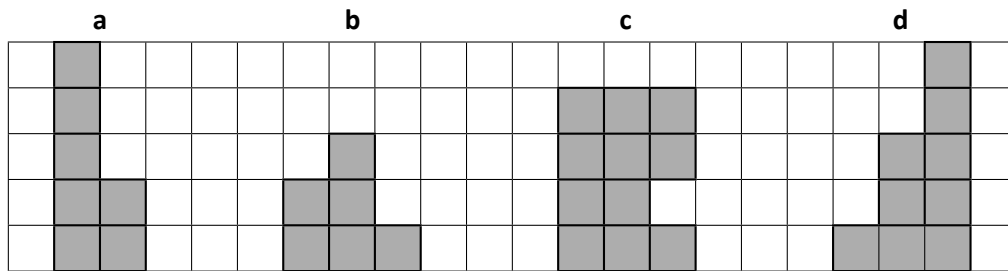
Length, Area and Perimeter:

Area – square centimeters

Area is the amount of space a shape covers. It is a 2D measurement. We measure area in square units. For small areas, we use square centimeters.

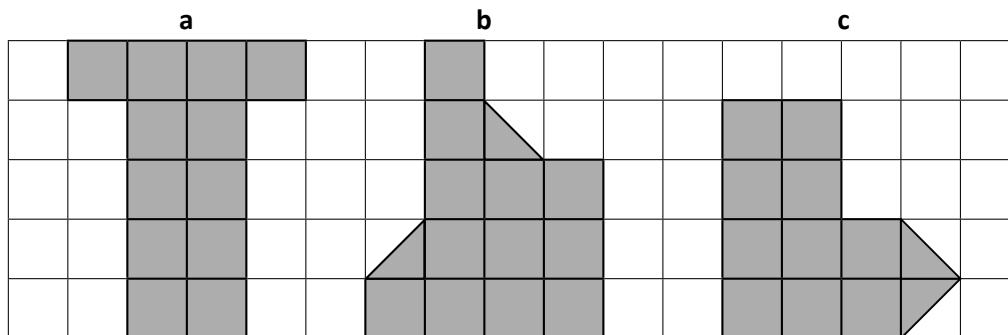
1 cm = 1 square centimeter
1 cm = 1 cm²

- 1 Each square covers an area of 1 square centimeter (1 cm²). Record the area of each shape:



Area = 7 cm² Area = 6 cm² Area = 11 cm² Area = 9 cm²

- 2 Find the area of these irregular shapes. Use the 1 cm grid paper as your guide:



Area = 12 cm² Area = 13 cm² Area = 11 cm²

Math Review Task

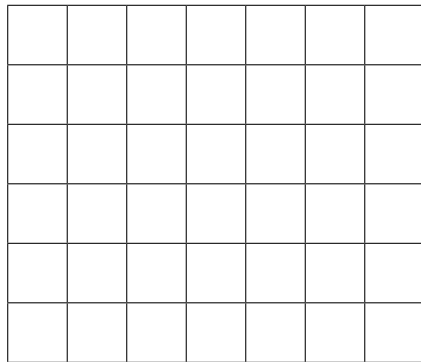
Grade 4

Length, Area and Perimeter:

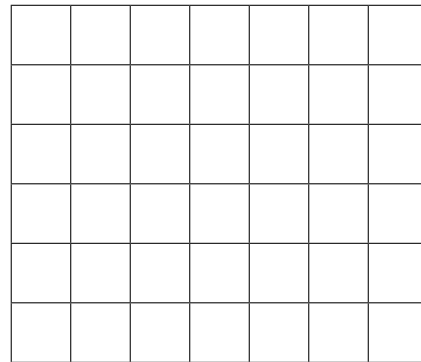
Area – square centimeters

- 3 Use the 1 square centimeter grid paper to shade some irregular shapes with the following areas: *Answers will vary.*

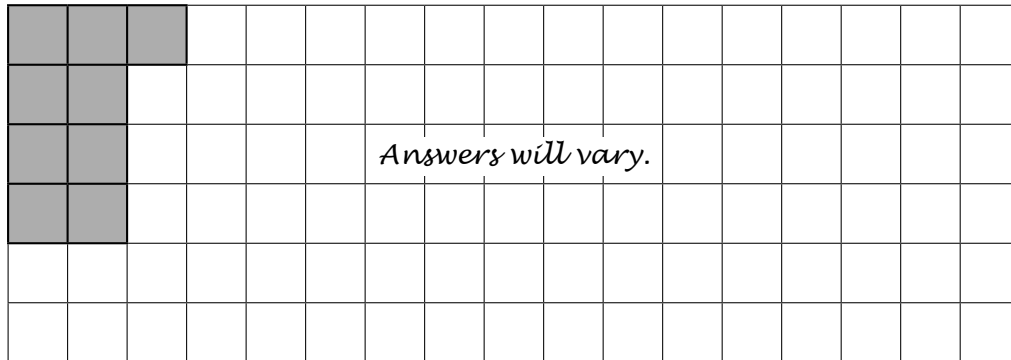
a 4 square centimeters



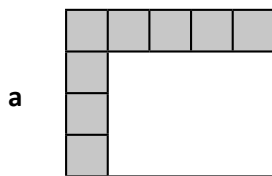
b 6 square centimeters



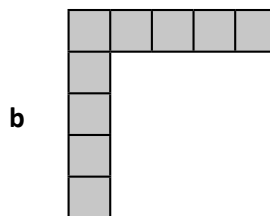
- 4 How many shapes can you make with an area of 9 square centimeters? Show them on the grid below. The first one has been done for you.



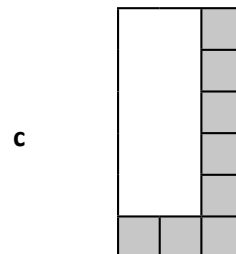
- 5 What is the area of each rectangle? Each square in the grid has an area of 1 cm².



Area = 20 cm²



Area = 25 cm²



Area = 18 cm²