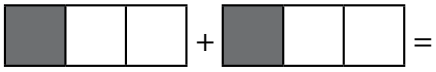
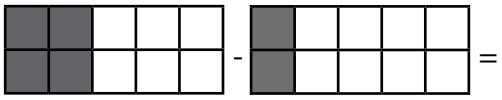
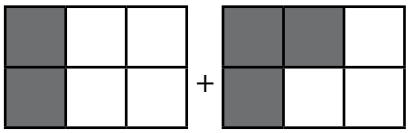
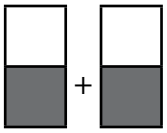
Adding And Subtracting Fractions – 2

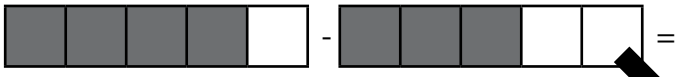
1. Solve each problem below.

a. 

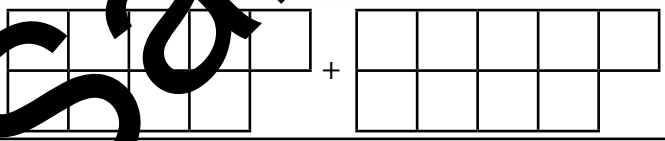
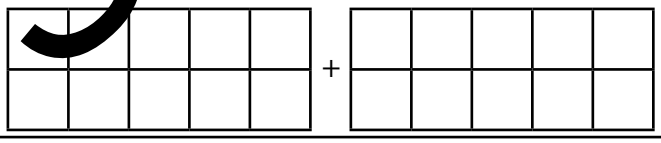
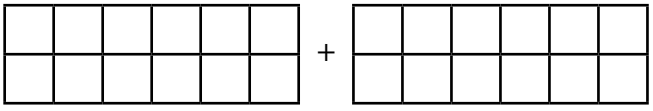
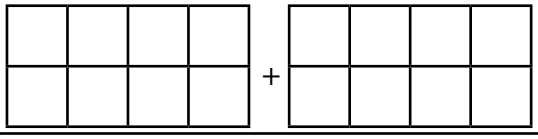
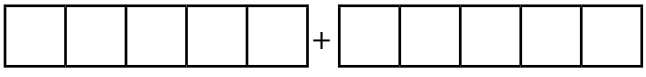
b. 

c. 

d. 

e. 

2. Shade each diagram to show the fraction indicated, then complete the sum.

a. 1/4 + 2/4		=
b. 3/9 + 3/9		=
c. 2/10 + 6/10		=
d. 10/12 – 5/12		=
e. 7/8 – 1/8		=
f. 3/4 – 2/4		=
g. 4/5 – 3/5		=

Curriculum Link: Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator (ACMNA103).
Elaboration: Modelling and solving addition and subtraction problems involving fractions by using jumps on a number line, or making diagrams of fractions as parts of shapes.

Understanding GST

In Australia, tax is added to particular goods and services. This is known as GST (Goods and Services Tax). A tax of 10% is added on to the price of goods and a tax of 10% is added to the price of a service.

For example, if a tailor charges a customer $250 for mending a jacket, he/she will add 10% GST ($25), making the total cost $275.

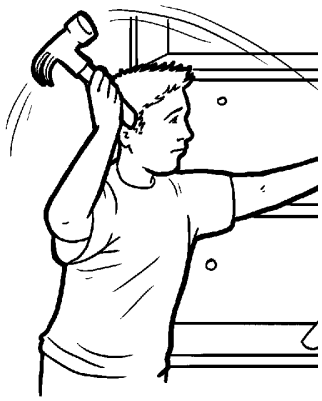
1. Complete these receipts (for goods) by adding GST, and totalling the receipt.

TOY SHOP RECEIPT	
Teddy bear	$30
Science kit	$50
Train set	$110
Jigsaw puzzle	$20
GST	_____
Total including GST	_____

STATIONERY SUPPLIES RECEIPT	
Copying paper	$12
Packet of pens	$5.50
Folders	$11.50
Stapler	$3.00
GST	_____
Total including GST	_____

2. Calculate the GST for these services. Write the new total cost for each service. You may need to use some scrap paper to do your calculations.

Service	Price	Added GST	Total
Guitar lessons	$310		
Editing services	$565		
Tiling	$1050		
Carpentry	$975		
Plumbing	$65[illegible]		
Window washing	$125		
Roof maintenance	$870		



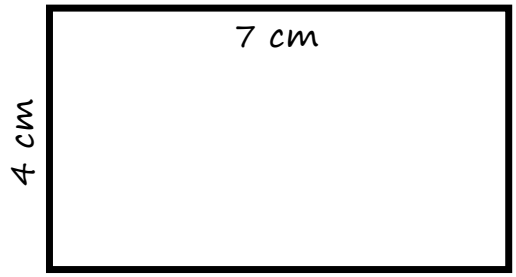
3. A gardener completes some work on a large property and hands the owner the receipt (right). He says that the GST on his services is $54. Is he correct? If not, what should he be charging? Show your calculations.

GARDENING RECEIPT	
Cleaning gutters	$150
Mowing lawn	$81
Planting vegetables	$99
Weeding garden	$190

Perimeter Of Rectangles

We can calculate the perimeter of a rectangle (the distance around it) by adding together the length of its sides. For the rectangle below, we would do the following sum:

7cm + 4cm + 7cm + 4cm = 22cm



We can also use doubling to make this calculation more efficient. In other words, we can:

- Add the length and width together and double the result (i.e. 7cm + 4 cm = 11 cm; double 11 cm = 22 cm).
- Double the length and width and add these together (i.e. double 7 cm = 14cm; double 4cm = 8 cm. 14cm + 8 cm = 22cm).

Use one or all of the above methods to work out the perimeter problems below.

Imagine that Amy wants to decorate plain diaries to sell at a school fete. There are five different diary sizes. She decides to border each diary cover with ribbon. To do this, she needs to know the perimeter of each cover. How much ribbon does she need? Show your working out for each perimeter calculation.

Diary Design	Perimeter	Working Out	How much ribbon?
1	length 22 cm x width 12 cm		
2	length 10 cm x width 11 cm		
3	length 7 cm x width 6 cm		
4	length 15 cm x width 9 cm		
5	length 17 cm x width 12 cm		

If the ribbon costs $1.00 per metre, how much does Amy need to spend on ribbon? Write your calculation below.

_____

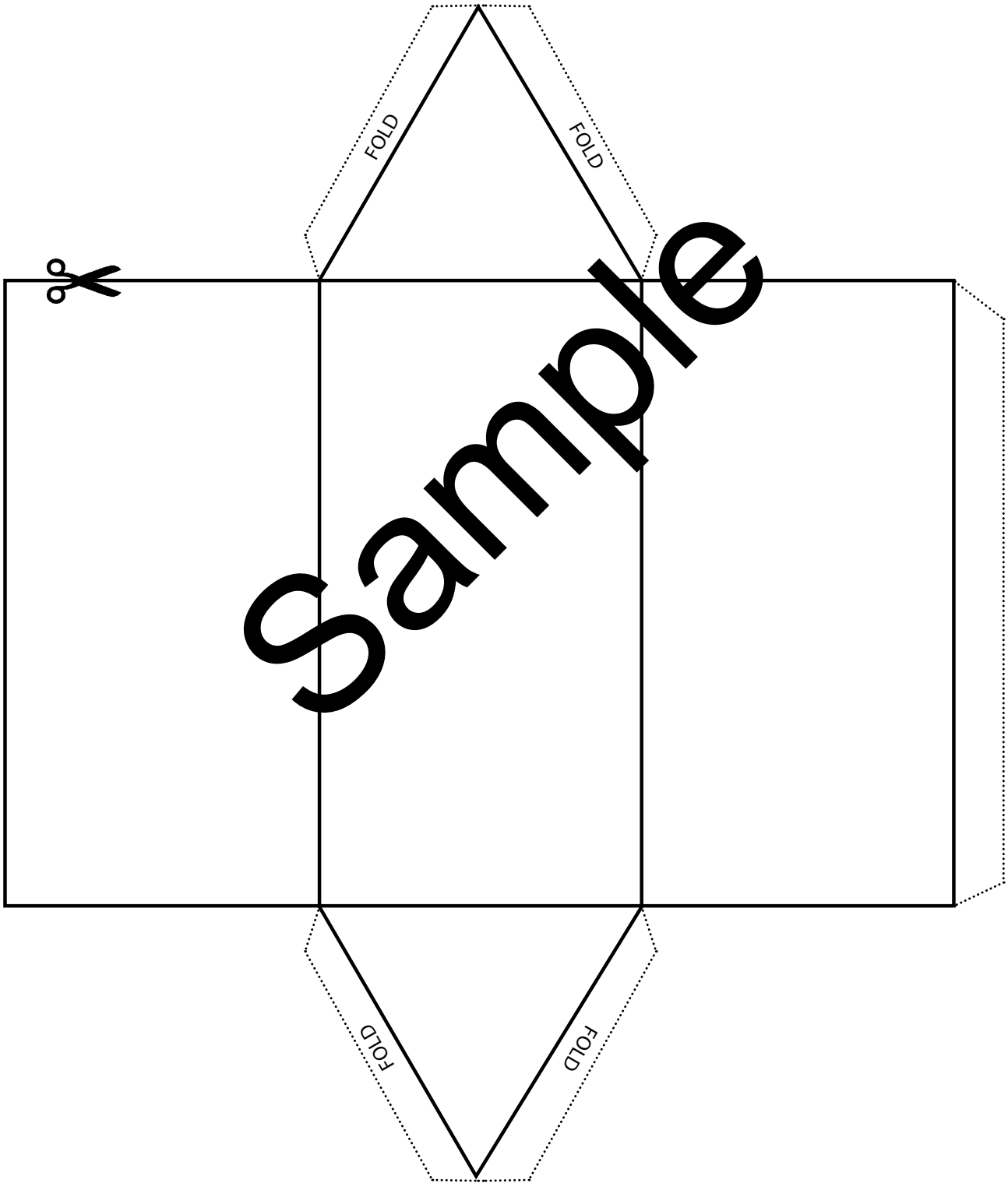
Curriculum Link: Calculate perimeter and area of rectangles using familiar metric units (ACMMG109).
Elaboration: Exploring efficient ways of calculating the perimeters of rectangles such as adding the length and width together and doubling the result.

Investigating Nets – 2

A net is a 2D pattern. If we fold up a net, it makes a 3D shape. There is more than one net possible for each 3D shape.

Cut out and construct the net below, then label it using one of the following:

cube **triangular prism** **rectangular prism**

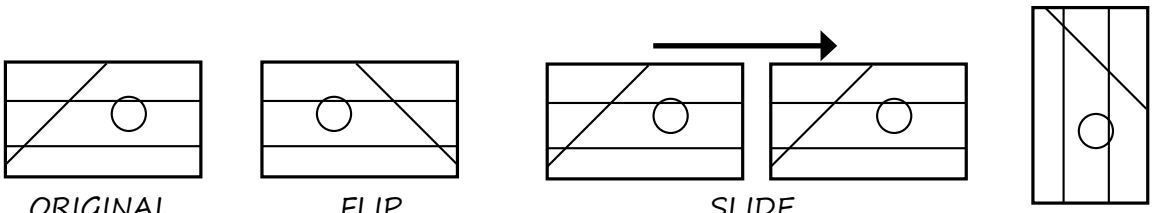


Curriculum Link: Connect three-dimensional objects with their nets and other two-dimensional representations (ACMMG111).
Elaboration: Identifying the shape and relative position of each face of a solid to determine the net of the solid, including that of prisms and pyramids.

Ready-Ed Publications

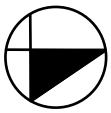
Flip, Slide And Turn

When a 2D shape is moved to another position, we call the change a transformation. A transformation can be a flip, slide or turn. Look at how the 2D shape below has been transformed.

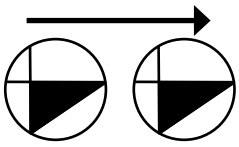


Answer the questions about transformation.

1. Write how the original shape has been moved.


original

a.  _____

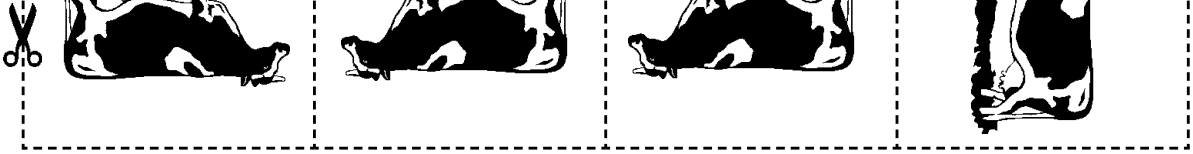
b.  _____

c.  _____

2. Flip, slide and turn the cow on the right according to the instructions below. Cut and paste the answers at the bottom of this page into the correct boxes.


ORIGINAL

FLIP DOWN	FLIP UP	1/4 CLOCKWISE TURN	1/2 CLOCKWISE TURN



Curriculum Link: Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries (ACMMG114).
Elaboration: Identifying the effects of transformations by manually flipping, sliding and turning two-dimensional shapes and by using digital technologies.

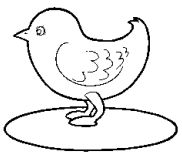
Games Of Chance – 3

Imagine that you visit a fête. You stop at a stall where you can play a game involving a jar of small toys. The stallholder says:

"Would you like to play this game? It costs $5 to play. Close your eyes and put your hand in the jar. If you get a bird, you win nothing. If you get a cat, you win $1. If you get a mouse, you win $5. If you get a dog, you win $10. If you get a horse, you win $50! There are 24 toys in the jar. 12 are birds, 6 are cats, 3 are mice, 2 are dogs and 1 is a horse. Can't be fairer than that!"

Before you decide whether to play, you work out the chance of choosing each type of toy.

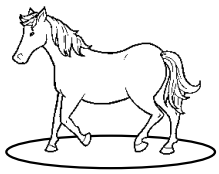
1. What is the chance (for example, 1 in 4) that you will pick each of the toys below?

Chance: 

Chance: 

Chance: 

Chance: 

Chance: 

2. If you play, which toy are you most likely to pick? _____

3. If you play, which toy are you least likely to pick? _____

4. If you play are you more or less likely to make some money? (Remember that the game costs $5 to play.)

_____

_____

5. How could this game be made fairer?

_____

_____

Curriculum Link: List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions (ACMSP116).
Elaboration: Commenting on the likelihood of winning simple games of chance by considering the number of possible outcomes and the consequent chance of winning in simple games of chance such as jan-ken-pon (rock-paper-scissors).