Math Review Task
Grade 7

Mathletics

Algebra Basics:

How does it work? | Your Turn | Algebra Basics

Multiplication

1. Simplify: (psst: remember the rules!)

   a. $2 \times 7 \times k$

   b. $u \times 1$

   c. $5 \times r \times p$

   d. $n \times m \times m$

   e. $6 \times b \times 3 \times b$

   f. $4 \times j \times l \times 3 \times k$

2. Expand each of these

   a. $4pq$

   b. $4a^2$

   c. $3m^2n$

3. It's combo time! Calculate the value of these expressions using the variable in the square brackets.

   a. $3x + 2 \quad [x = 4]$

   b. $15 - 2b \quad [b = 6]$

   c. $3 \times 5g \quad [g = 2]$

   d. $4m^2 \quad [m = 3]$

Math Review Task
Grade 7

Mathletics

Algebra Basics:

How does it work? | Your Turn | Algebra Basics

Division

1. Simplify by writing without using a division sign:

   a. $2 \div d$

   b. $a \div c$

   c. $5 \div (r + 3)$

   d. $(y + z) \div z$

2. Re-write these expressions using a division sign: (psst: some may need brackets)

   a. $\frac{w}{4}$

   b. $\frac{c}{3 + a}$

   c. $\frac{6}{3x + 2}$

   d. $\frac{x - y}{v + w}$

3. Re-write these expressions using a division sign: (psst: simplify the fractions first)

   a. $\frac{2a}{6}$

   b. $\frac{6b}{12c}$

   c. $\frac{15x}{20y}$

   d. $\frac{4(m + n)}{12p}$

Math Review Task
Grade 7

Mathletics

Algebra Basics:

How does it work? | Your Turn | Algebra Basics

Phrases as algebraic expressions

2 Circle whether the algebraic expression is correct or incorrect for each phrase.

a A number multiplied by 4 added to 7: (Correct) Incorrect

$4n + 7$

b The difference between a number and 4: Correct Incorrect

$4 - n$

c The sum of 6 and the product of 3 and a number: Correct Incorrect

$3n + 6$

d The quotient of 4 plus a number and 9: Correct Incorrect

$4 \div (n + 9)$

e A number divided by 5 and added to the number: Correct Incorrect

$\frac{n}{5} + 5$

f A number times the difference between the number and one: Correct Incorrect

$n(n - 1)$

g The sum of a number, and three minus the number halved: Correct Incorrect

$n + \frac{3 - n}{2}$

h The product of 6 more than twice a number and 4: Correct Incorrect

$4(2n + 6)$

i The product of a number squared and 3: Correct Incorrect

$(3n)^2$

j The quotient of 5 less than a number and the number: Correct Incorrect

$\frac{n - 5}{n}$

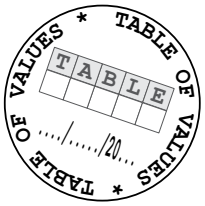
Math Review Task
Grade 7

Mathletics

Algebra Basics:

Where does it work? | Your Turn | Algebra Basics

Table of values



1. Complete each table of values using the given rule.

a $u = v + 2$

v	0	1	2	3	4
u					

b $c = 2d$

d	0	1	2	3	4
c					

c $g = 4h - 3$

h	1	2	3	4	5
g					

d $y = \frac{x}{2} + 1$

x	2	4	6	8	10
y					

2. Draw lines to match each table of values with the correct matching rule.

a	0	2	4	6	8
b	2	3	4	5	6

a	1	2	3	4	5
b	1	6	11	16	21

a	0	1	2	3	4
b	0	3	6	9	12

a	0	1	2	3	4
b	3	5	7	9	11

- $b = 2a + 3$
- $b = \frac{a + 4}{2}$
- $b = 3a$
- $b = 5a - 4$

3. Have a go at figuring out the rule used for each table of values below and fill in the gaps.

a Rule:

x	0	1	2	3	4
y	5	6			9

b Rule:

m	0	1	2	3	4
n	0	4		12	

c Rule:

p	0	1	2	3	4
q	-3		-1		1

d Rule:

c		1		5	6
d	-5	-1	3		19

Math Review Task
Grade 7

Mathletics

Algebra Basics:

Where does it work? | Your Turn | Algebra Basics

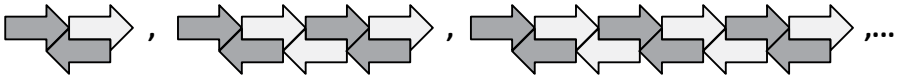
Number patterns

1 For each of these pattern diagrams:
(i) Describe the number pattern formed by the shapes
(ii) Write a number pattern for the total number of shapes used to make the first five diagrams

a 

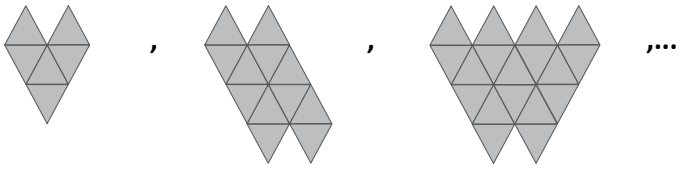
(i)

(ii) _____ , _____ , _____ , _____ , _____ ,...

b 

(i)

(ii) _____ , _____ , _____ , _____ , _____ ,...

c 

(i)

(ii) _____ , _____ , _____ , _____ , _____ ,...

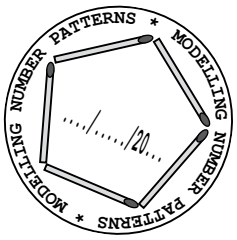
Math Review Task
Grade 7

Mathletics

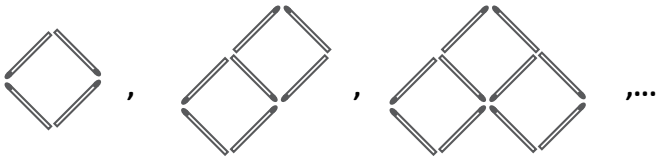
Algebra Basics:

Where does it work? | Your Turn | Algebra Basics

Modelling number patterns



Write down the general rule for each of the following matchstick number patterns:

1. 

Let s be the number of squares and m the number of matchsticks

Number of squares (s)			
Number of matchsticks (m)			

General rule:

$m =$ ☐ $\times s +$ ☐

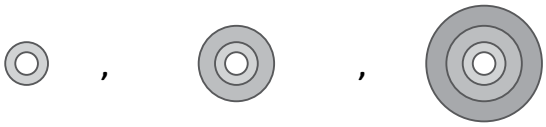
2. 

Let t be the number of triangles and m the number of matchsticks

Number of triangles (t)			
Number of matchsticks (m)			

General rule:

$m =$ ☐ $t +$ ☐

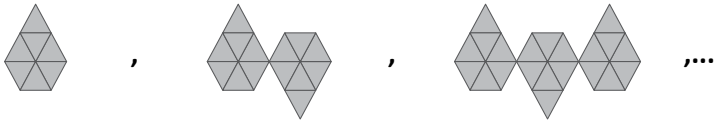
3. 

Let r be the number of grey rings and c the number of circles drawn

Number of grey rings (r)	1		
Number of circles drawn (c)	2		

General rule:

$c =$ ☐ $r +$ ☐

4. 

Let p be the number of pentagonal shapes and t the number of triangles used

Number of pentagonal shapes (p)			
Number of triangles (t)			

General rule:

$t =$ ☐ p

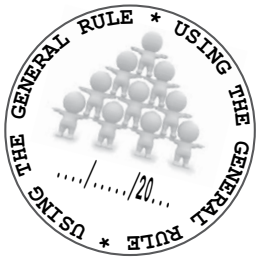
Math Review Task
Grade 7

Mathletics

Angles:

What else can you do? | Your Turn | Algebra Basics

Using the general rule



1 a Every time Niamh kicked a goal (g) the team score (s) increased by 2. The general rule for this is given by:

$$s = 2g$$

How many points did Niamh score after kicking $g = 8$ goals?

b If the total number of chickens (c) that crossed the road after each minute (m) is given by the general rule:

$$c = 5m - 3$$

How many chickens had crossed the road when $m = 7$ minutes?

c The total number of shirts (s) tried on by customers (c) in a store is represented by the general rule:

$$s = 2c + 1$$

How many shirts had been tried on when there were $c = 12$ customers?

d The total number of vegetarian meals (v) ordered (on average) in a restaurant by diners (d) is given by the general rule:

$$v = \frac{d}{3}$$

How many vegetarian meals were ordered on a night with $d = 36$ diners?

Math Review Task
Grade 7

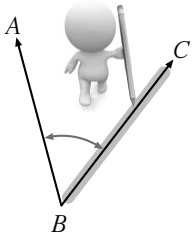
Mathletics

Angles:

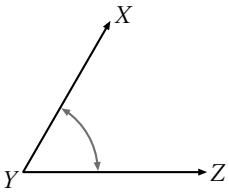
How does it work? | Your Turn | Angles

Parts of an angle

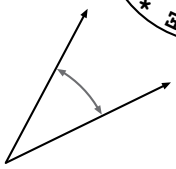
1. Highlight the section of the angle that matches the label underneath.

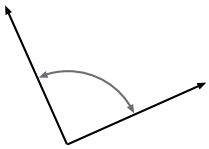
a 

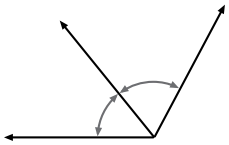
Arm BC

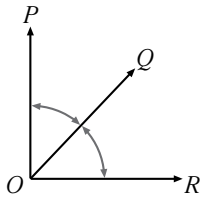
b 

Arm YX

c 
The vertex

d 
The angle swept

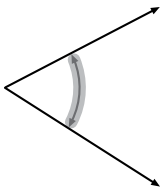
e 
The arm shared by both angles

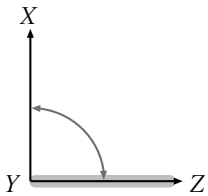
f 

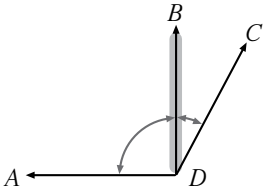
The angle swept by the arms OP and OQ

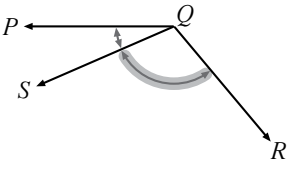
2. Write down the parts of the angles that have been highlighted below.

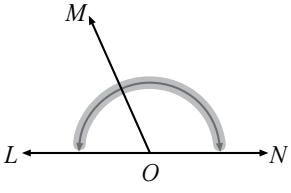
a 

b 

c 

d 

e 

f 

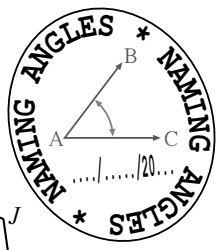
Math Review Task
Grade 7

Mathletics

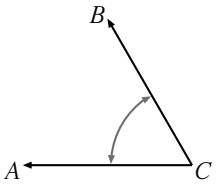
Angles:

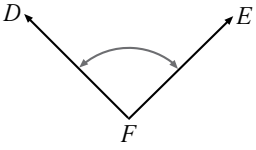
How does it work? | Your Turn | Angles

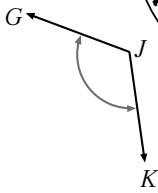
Naming Angles



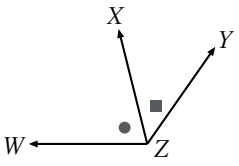
1 Name each of these angles.

a 

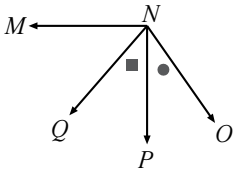
b 

c 

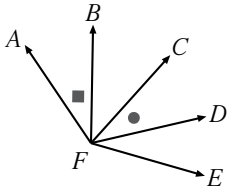
2 Name each of the angles marked with: (i) A dot ●
(ii) A square ■

a 

(i) ●
(ii) ■

b 

(i) ●
(ii) ■

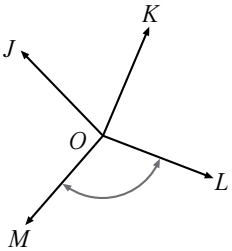
c 

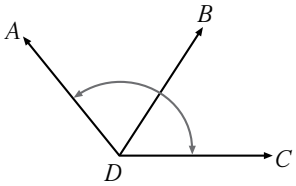
(i) ●
(ii) ■

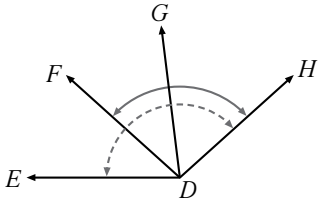
3 Name the arm common to both marked angles in question 2, (write 'no arm common' if there isn't one).

a b c

4 Name the angles indicated in each of these:

a 

b 

c 

=

=

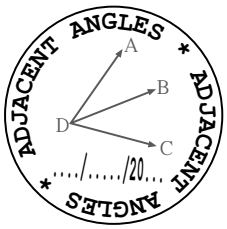
Math Review Task
Grade 7

Mathletics

Angles:

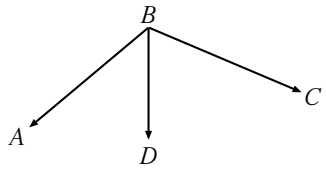
Where does it work? | Your Turn | Angles

Adjacent angles



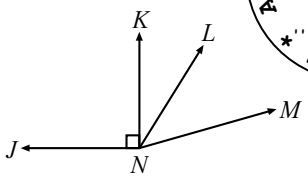
1. Name a pair of adjacent acute angles in each of these diagrams:

a)



and

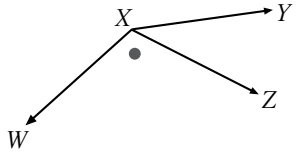
b)



and

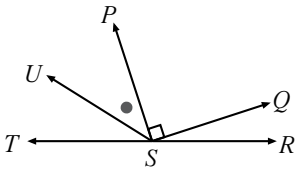
2. Name a **reflex** angle and an **acute** angle adjacent to these angles marked with a dot.

a)



and

b)



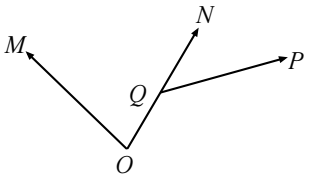
and

Remember to write the word reflex infront of the reflex angles

3. Draw an obtuse angle and label it $\angle PQR$. Draw an acute angle $\angle PQS$ adjacent to it.

4. Each of these angles share an arm. Explain why they are not adjacent to each other.

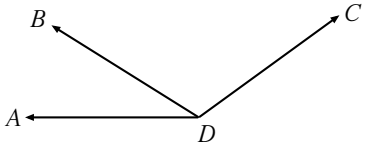
a)



$\angle MON$ and $\angle NQP$

$\angle MON$ and $\angle NQP$ are not adjacent because:

b)



$\angle ADB$ and $\angle ADC$

$\angle ADB$ and $\angle ADC$ are not adjacent because:

Math Review Task
Grade 7

Mathletics

Angles:

Where does it work? | Your Turn | Angles

Complementary and supplementary angles

1. Calculate the complement of these angles:

   a. 30° b. 80° c. 46°

   d. 11° e. f.

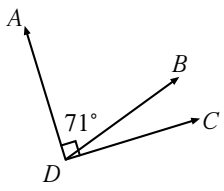
2. Calculate the supplement of these angles:

   a. 100° b. 90° c. 165°

   d. 109° e. $19\frac{1}{4}^\circ$ f.

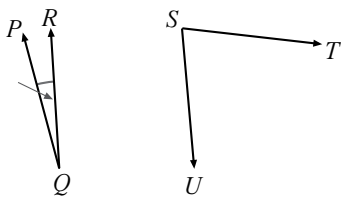
3. Calculate the size of the missing angle for these pairs of angles to be complementary:

   a.



   $\angle BDC =$

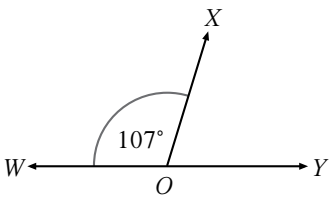
   b.



   $\angle TSU =$

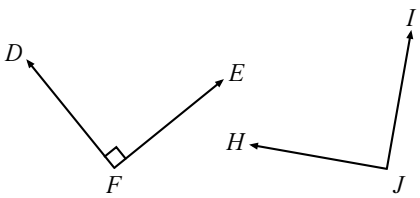
4. Calculate the size of the missing angle for these pair of angles to be supplementary:

   a.



   $\angle XOY =$

   b.



   $\angle HJI =$

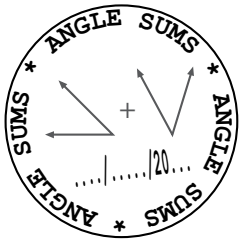
Math Review Task
Grade 7

Mathletics

Area and Perimeter:

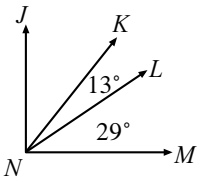
What else can you do? | Your Turn | Angles

Angle sums



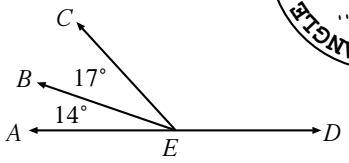
1. For each of these diagrams, calculate the size of the missing angle:

a)



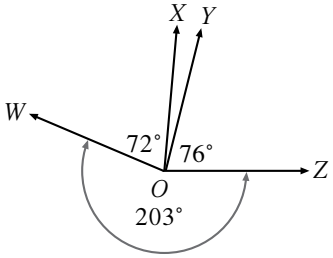
$\angle JNK =$

b)



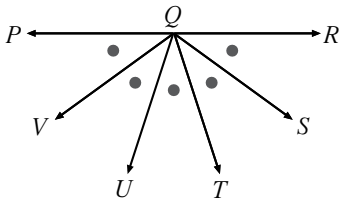
$\angle CED =$

c)



$\angle XOY =$

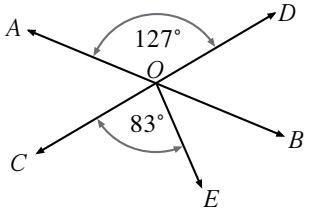
d) Small dots can be used to show equal sized angles



Each angle =

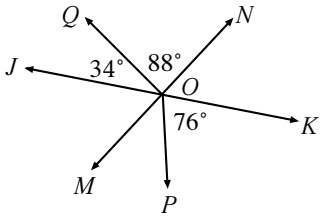
2. Vertically opposite angles can be used to help find the unknown angles for these.

a) AB and CD are straight lines



$\angle BOE =$

b) JK and MN are straight lines



$\angle MOP =$

Math Review Task
Grade 7

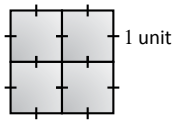
Mathletics

Area and Perimeter:

How does it work? | Your Turn | Area and Perimeter

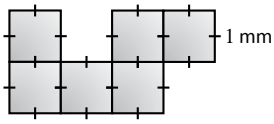
Area using unit squares

1 Calculate the area of all these shaded shapes:

a 

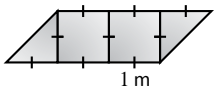
Area = ☐ whole squares

= ☐ units^2

b 

Area = ☐ whole squares

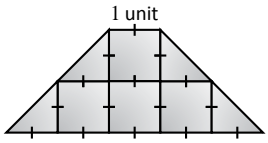
= ☐ mm^2

c 

Area = ☐ whole + ☐ half squares

= ☐ m^2 + ☐ $\times \frac{1}{2}$ m^2

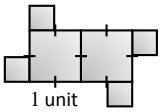
= ☐ m^2

d 

Area = ☐ whole + ☐ half squares

= ☐ units^2 + ☐ $\times \frac{1}{2}$ units^2

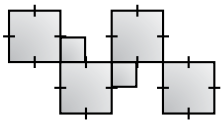
= ☐ units^2

e 

Area = ☐ whole + ☐ quarter squares

= ☐ units^2 + ☐ $\times \frac{1}{4}$ units^2

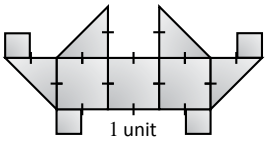
= ☐ units^2

f 

Area = ☐ whole + ☐ quarter squares

= ☐ cm^2 + ☐ $\times \frac{1}{4}$ cm^2

= ☐ cm^2

g 

Area = ☐ whole + ☐ half + ☐ quarter squares

= ☐ units^2 + ☐ $\times \frac{1}{2}$ units^2 + ☐ $\times \frac{1}{4}$ units^2

= ☐ units^2

Math Review Task
Grade 7

Mathletics

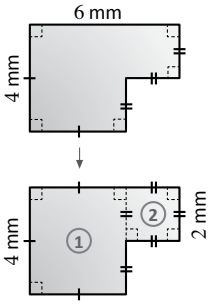
Area and Perimeter:

Where does it work? | Your Turn | Area and Perimeter

Area of composite shapes

1 Complete the area calculations for these shaded shapes:

a



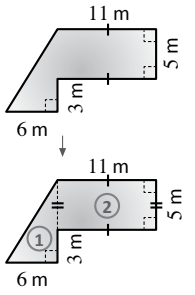
Area ① = ☐ mm × ☐ mm = ☐ mm²

Area ② = ☐ mm × ☐ mm = ☐ mm²

∴ Composite area = ① + ② mm²

= ☐ mm²

b



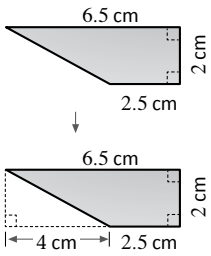
Area ① = ☐ × ☐ × ☐ m² = ☐ m²

Area ② = ☐ × ☐ m² = ☐ m²

∴ Composite area = ① + ② m²

= ☐ m²

c



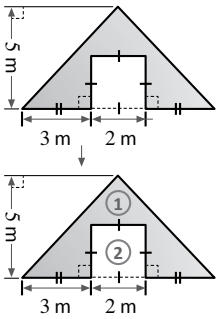
Area ① = ☐ × ☐ cm² = ☐ cm²

Area ② = ☐ × ☐ × ☐ cm² = ☐ cm²

∴ Composite area = ① − ② cm²

= ☐ cm²

d



Area ① = ☐ × ☐ × ☐ m² = ☐ m²

Area ② = ☐ × ☐ m² = ☐ m²

∴ Composite area = ① − ② m²

= ☐ m²

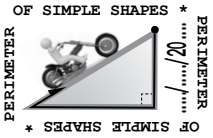
Math Review Task
Grade 7

Mathletics

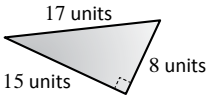
Area and Perimeter:

Where does it work? | Your Turn | Area and Perimeter

Perimeter of simple shapes

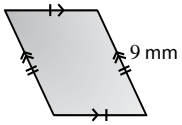


1. Complete the perimeter calculations for these shapes:

a. 

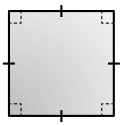
Perimeter = ☐ units + ☐ units + ☐ units

= ☐ units

b. 

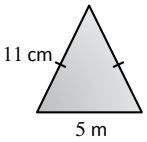
Perimeter = 2 × ☐ mm + 2 × ☐ mm

= ☐ mm

c. 

Perimeter = ☐ × ☐ m

= ☐ m

d. 

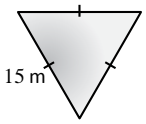
Perimeter = 2 × ☐ cm + ☐ cm

= ☐ cm

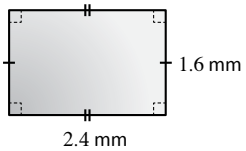
2. Calculate the perimeter of the shapes below, using the space to show all working:

a. 

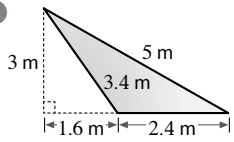
Perimeter = ☐ cm

b. 

Perimeter = ☐ m

c. 

Perimeter = ☐ mm

d. 

Perimeter = ☐ m

Math Review Task
Grade 7

Mathletics

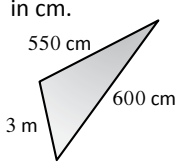
Area and Perimeter:

Where does it work?	Your Turn	Area and Perimeter

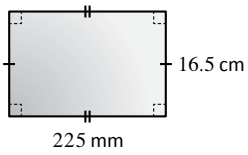
Perimeter of simple shapes

3 Find the perimeter of each shape written using the smaller units of measurement in each diagram.

a in cm.



b in mm.

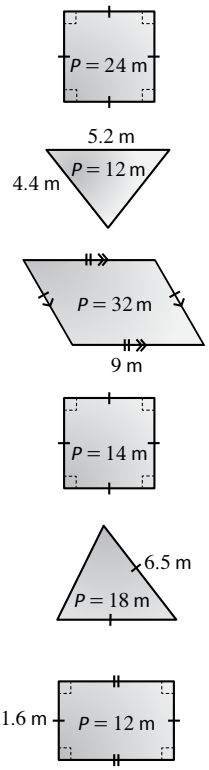


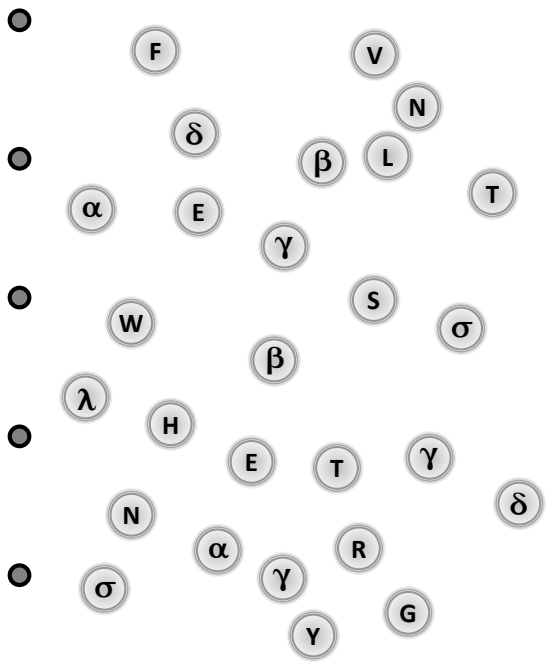
Perimeter = ... cm

Perimeter = ... mm

4 Each shape below has its perimeter written inside and is missing one of the side length values.
Rule a straight line between each shape and the correct missing side length on the right to answer:

How many straight sides does an icosagon have?





- 8 m
- 2.4 m
- 3.5 m
- 380 cm
- 440 cm
- 2 m
- 7 m
- 650 cm
- 1.1 m
- 6 m
- 5 m

α β γ δ λ σ

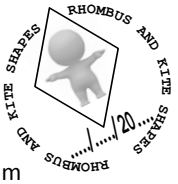
Math Review Task
Grade 7

Mathletics

Area and Perimeter:

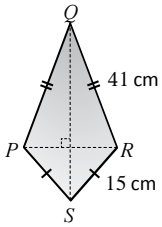
What else can you do? | Your Turn | Area and Perimeter

Rhombus and Kite shapes



1. Calculate the area and perimeter of these shapes:

   a. $PR = 18$ cm and $QS = 52$ cm



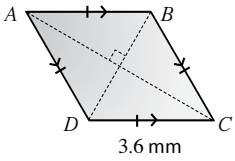
Area = ☐ × ☐ ÷ ☐ cm²

= ☐ cm²

Perimeter = 2 × ☐ + 2 × ☐ cm

= ☐ cm

   b. $BD = 1.8$ mm and $AC = 2.4$ mm



Area = ☐ × ☐ × $\frac{1}{2}$ mm² $\div 2 = \times \frac{1}{2}$

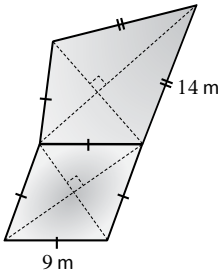
= ☐ mm²

Perimeter = ☐ × ☐ mm

= ☐ mm

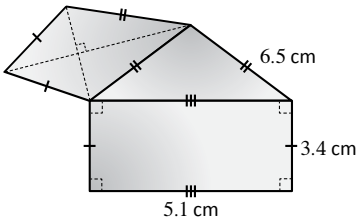
2. Calculate the perimeter of these composite shapes:

   a.



Perimeter = ☐ m

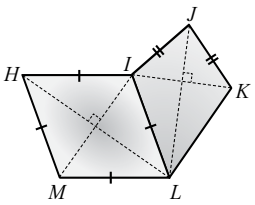
   b.



Perimeter = ☐ cm

3. Calculate the area of this composite shape, showing all working when:

$HL = 30$ m, $IK = IM = 16$ m and $JL = 21$ m



Area = ☐ m²

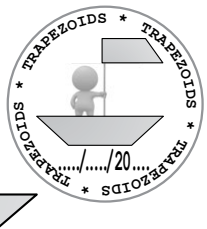
Math Review Task
Grade 7

Mathletics

Area and Perimeter:

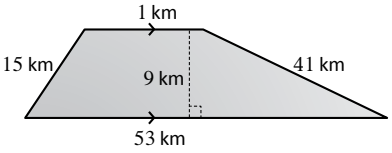
What else can you do? | Your Turn | Area and Perimeter

Trapezoids



1. Calculate the area and perimeter of these trapezoids:

a)

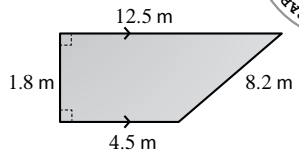


Area = (☐ + ☐) × ☐ ÷ 2 km²

= ☐ km²

Perimeter = ☐ km

b)



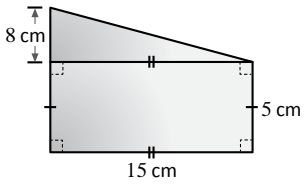
Area = (☐ + ☐) × ☐ ÷ 2 m²

= ☐ m²

Perimeter = ☐ m

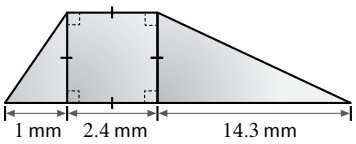
2. Use the trapezoid method to calculate the area of these composite plane shapes.

a)



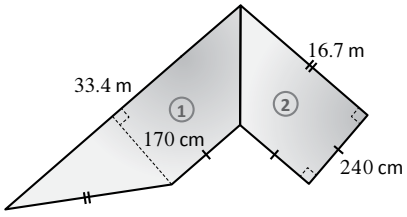
Area = ☐ cm²

b)



Area = ☐ mm²

3. Use the trapezoid method to calculate the area of this composite plane shapes.



Area = ☐ m²

Perimeter = ☐ m

Math Review Task
Grade 7

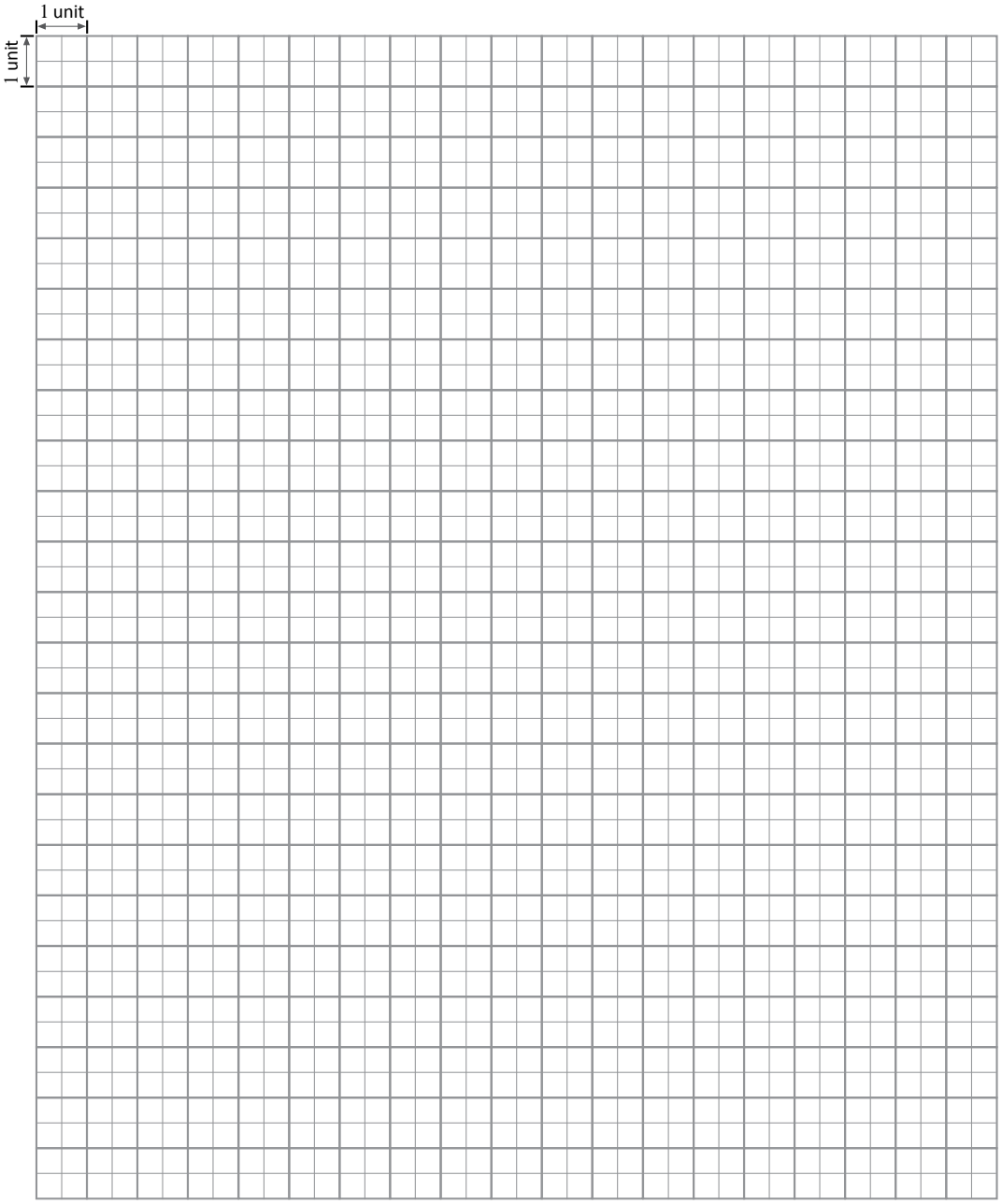
Mathletics

Chance:

What else can you do? | Your Turn | Area and Perimeter

Area challenge

Fill the grid below with as many different squares, triangles, rectangles, parallelograms, rhombi, kites and trapezoids as you can which all have the same area of 8 units^2.



Math Review Task
Grade 7

Mathletics

Chance:

How does it work? | Your Turn | Chance

Sample space

2 Complete the two-way tables and use them to write the sample space for all the possible outcomes.

a Flicking two light switches.

		Switch 2	
		On	Off
Switch 1	On		
	Off		

$S =$

b Tossing a coin and rolling a four-sided die.

		4 sided die			
		1	2	3	4
Coin	Head (H)				
	Tail (T)				

$S =$

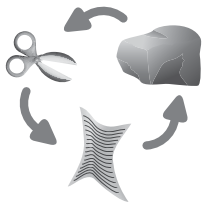
c Six friends logged onto a social website to chat.

		Friends					
		Ari (A)	Coco (C)	Qian (Q)	Jee Un (J)	Steve (S)	Fahim (F)
Logged on	Yes (Y)						
	No (N)						

$S =$

d Two people playing Scissors, Paper, Rock.

		Player 2		
		Scissors (S)	Paper (P)	Rock (R)
Player 1	Scissors (S)			
	Paper (P)			
	Rock (R)			



$S =$

Math Review Task
Grade 7

Mathletics

Chance:

How does it work? | Your Turn | Chance

Sample space

e The spinner and six-sided die pictured used together:

Die	Spinner: 1	2	3	●	⬟
1					
2					
3					
4					
5					
6					

$S =$

3 Here is your first chance to earn an awesome passport stamp.

You hear someone say:

"I do not have a twelve-sided die, but I do have two six-sided dice which we could just add together, which is the same thing."

$=$  ?

Use your understanding of sample space for both options to explain why you agree or disagree with this statement. Show all your working to back up your explanation.

Math Review Task
Grade 7

Mathletics

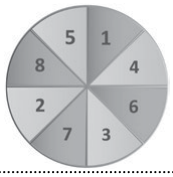
Chance:

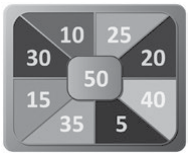
How does it work? | Your Turn | Chance

Equally likely outcomes

1. Points in dart games depend on what area of the board each dart lands. Label each board as having scores that are 'equally likely' or 'not Equally likely' with each dart thrown.

a) 

b) 

c) 

d) 

e) 

f) 

2. Write down the sample space for each of these events and state whether each different outcome is equally likely or not equally likely.

a) Tossing a head or a tail on a normal coin.

$S =$ Each different outcome is:

b) Picking a colored marble from a bag containing three black and two green marbles.

$S =$ Each different outcome is:

c) A raffle in which each of the ten participants have one ticket only.

$S =$ Each different outcome is:

d) Picking a vowel or consonant from a bag containing all the letters from A to J.

$S =$ Each different outcome is:

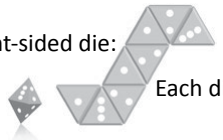
e) Hitting an odd or even number when throwing a dart at the board in Q1 e).

$S =$ Each different outcome is:

f) Rolling an odd or even number on a four-sided die containing the first 4 positive perfect cubes.

$S =$ Each different outcome is:

g) Rolling the following eight-sided die:



$S =$ Each different outcome is:

Math Review Task
Grade 7

Mathletics

Chance:

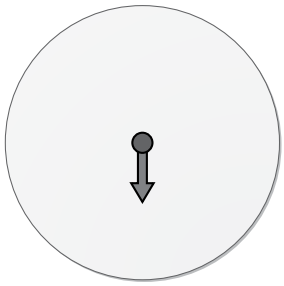
How does it work? | Your Turn | Chance

Equally likely outcomes

3 Use the given sample space and rule to fill in each of these blank spinners:

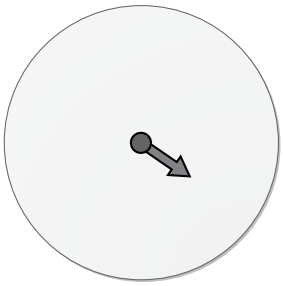
a $S = \{1, 2, 3, 4\}$

All outcomes equally likely



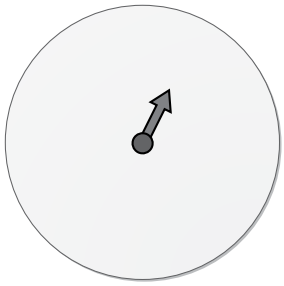
b $S = \{2, 4, 6, 8, 10\}$

All outcomes are not equally likely



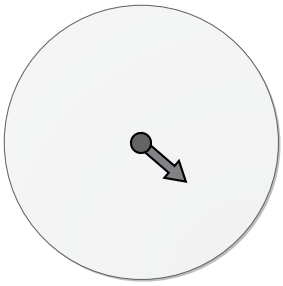
c $S = \{$●, ■, ▲, ♦, ⬟$\}$

Four sided shapes are equally likely. All the other shapes are not equally likely.



d $S = \{$Green, Green, Blue, Blue, Black, Black, Pink, Pink$\}$

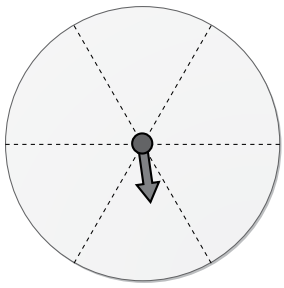
All outcomes are equally likely to occur.



e $S = \{$●, ■, ▲, 1, 2$\}$

The spinner is biased so the circle outcome is twice as likely as the other four, equally likely outcomes.

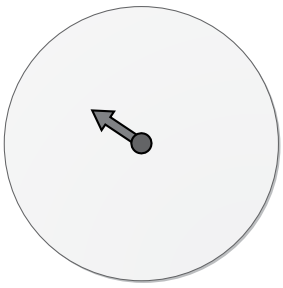
Psst!: the spinner has already been divided up in a way to help you with this one.



f $S = \{1, 2, 3\}$

The spinner is biased so that each outcome has double the chance of being spun than the previous one.

Psst!: If the outcome 1 has one chance, then the outcome 2 has two chances etc!



Math Review Task
Grade 7

Mathletics

Chance:

How does it work? | Your Turn | Chance

Chance experiments

Tally charts are a simple way to record repeated trials and allow chance calculations for any outcome.

In a local supermarket promotion, shoppers are given scratch cards that contain offers of 2%, 5%, 10% and 25% off their shopping bill. Fifty cards were collected and scratched with the following results:

2%, 5%, 2%, 2%, 2%, 5%, 10%, 2%, 2%, 5%, 2%, 10%, 25%, 2%, 5%, 2%, 2%, 2%, 5%, 2%, 10%, 2%, 2%, 5%, 2%
5%, 2%, 25%, 5%, 2%, 2%, 5%, 2%, 2%, 5%, 10%, 10%, 2%, 5%, 2%, 2%, 2%, 2%, 5%, 2%, 2%, 2%, 10%, 2%, 2%

Cross off each result and add a stroke to the tally as you go.

Outcome	Tally	Frequency
2%	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸	30
5%	𝍸 𝍸 II	12
10%	𝍸 I	6
25%	II	2
	Total	50 ← Should equal the total number of trials

Now any probability calculation can be made using the formula!

Eg: The experimental probability for getting 5% off $= \frac{\text{Frequency of 5\% prizes revealed}}{\text{Total number of cards scratched}}$

$= \frac{12}{50}$

$= 24\%$

4 Fill in the tally tables for these experimental results:

a Twenty flips of a coin.

H, T, T, H, H, T, H, T, H, H,
T, H, H, T, T, T, T, H, T, T.

Outcome	Tally	Frequency
Head		
Tail		
	Total	

b Fifty rolls of a normal six-sided die.

2, 5, 3, 2, 1, 6, 6, 5, 4, 1,
4, 2, 1, 3, 4, 2, 5, 4, 6, 3,
3, 6, 2, 5, 5, 4, 2, 1, 4, 3,
2, 3, 5, 4, 6, 4, 5, 3, 2, 1,
5, 1, 2, 2, 2, 6, 3, 5, 6, 4.

Outcome	Tally	Frequency
1		
2		
3		
4		
5		
6		
	Total	

Math Review Task
Grade 7

Mathletics

Chance:

How does it work? | Your Turn | Chance

Chance experiments

5 Thirty five darts were thrown at a dart board with light and dark rings. The hits recorded were:

light, light, dark, light, dark, dark, light, dark, dark, dark,
dark, dark, dark, light, dark, light, light, dark, light, dark,
light, dark, dark, light, dark, light, light, light, dark, light.

Five darts missed the board.

Complete the tally table below and use it to calculate the experimental probability of hitting a light ring.

Outcome	Tally	Frequency
Miss		
Dark		
Light		
	Total	

$P(\text{light ring}) =$

6 An mp3 player containing rock (R), pop (P), dance (D) and country (C) songs was on random shuffle play. The first fifty songs played are recorded below:

R, P, P, D, C, R, R, D, C, P, R, P, C, D, C, R, D, D, C, R, R, R, D, D, P,
D, P, R, R, C, P, D, P, D, R, C, C, C, R, C, D, R, C, C, R, R, P, R, P, R.

a Fill in the tally table with the results.

Outcome	Tally	Frequency
Rock		
Pop		
Dance		
Country		
	Total	

b Calculate the probability of hearing a rock song according to these results.

c If another 150 songs were played, what number of country songs would you expect to hear based on these results?

Math Review Task
Grade 7

Mathletics

Chance:

Where does it work?	Your Turn	Chance

Describing theoretical probability

1. Calculate the probability of these events and use the results to describe the chance of them occurring.

   a. Hitting a target in a computer game if the player makes three hits for every ten presses of the fire button.

   b. Picking a blue coin from a money box containing 6 gold colored and 8 silver colored coins.

   c. Being offered a fiction ebook to download from a site that offers free downloads for new subscribers chosen randomly from twelve fiction and eight non-fiction ebooks.

   d. Buying a faulty camera from a cheap brand that was tested for quality with three being found to be faulty and twenty two found to be fine.

   e. Succeeding in making someone smile by giving them a flower if you got forty-one smiles and nine blank expressions when handing them out.

Math Review Task
Grade 7

Mathletics

Chance:

Where does it work? | Your Turn | Chance

Describing theoretical probability

2 Use the language of chance to make two different statements about the following probabilities:

a The probability of picking a girls toy from a lucky dip box containing girls and boys toys is 50%.

There is an even chance of picking a girls toy from the lucky dip box.

or

There is a fifty-fifty chance of picking a girls or boys toy from the lucky dip box.

b A biased die roles the number six, 90% of the time it is rolled.

c The probability of finding a flat battery from the used battery pile in a shop is 100%.

d 48% of the people at a beach one day said that the water was too cold for swimming. Describe the chance of meeting someone on the beach that day who thought the water was too cold.

e 5% of the keys on an old keyboard still work. Describe the probability of pressing a key that works.

f If 60% of the rose flowers in one garden have opened, describe the probability of an insect randomly landing on an unopened rose bud in the garden.

g An old washing machine cleans the clothes properly of the time. Describe the chance of a load of washing coming out dirty.

Math Review Task
Grade 7

Mathletics

Chance:

What else can you do?	Your Turn	Chance

Playing cards

Remember:
numerator ÷ denominator
for decimal value

1. For each of these:
   (i) Write the probability as a decimal if one card was selected at random from a pack of normal playing cards.
   (ii) Describe the chance of each event.

   a. $P(\text{red card})$

   (i) (ii)

   b. $P(\text{club})$

   (i) (ii)

   c. $P(\text{black diamond})$

   (i) (ii)

   d. $P(\text{Ace})$

   (i) (ii)

   e. $P(\text{King of spades})$

   (i) (ii)

2. The same words can be used to describe the chance of picking an Ace or picking a King of Spades. However the calculated probabilities of each event are different.
   How would you describe the chance of both events if comparing the two?

Math Review Task
Grade 7

Mathletics

Chance:

Problems involving chance

1. One wing of a hospital has nurses, doctors, cleaning staff and administrators working there. Two of these workers enter one patient's room, one at a time.

a. Complete the table to reveal the sample space of all the possible pairings (including order) that two workers could have entered the patient's room.

		Second person			
		Nurse (N)	Doctor (D)	Cleaner (C)	Admin. (A)
First person	Nurse (N)				
	Doctor (D)				
	Cleaner (C)				
	Admin. (A)				

b. $n(\text{Doctor and Nurse in any order}) =$ .....

c. $n(\text{Sample space}) =$ .....

d. Calculate $P(\text{a doctor and a nurse in any order})$ entering the patient's room as a percentage.

e. There are actually twenty two nurses, sixteen doctors, eight cleaners and two administrators working in the wing. Calculate the percentage of workers that are doctors and nurses to the nearest whole percent. Use the result to briefly explain how this would affect the result in part d.

f. From the information given in part e, what would be the least likely pairing to enter the patient's room?