

M1 Maths – Fun and Games

Goodies and Baddies

Aim

A fun game to revise and practice any knowledge or skills that can be performed mentally.

Procedure

Equipment needed

A coin.

Questions can be on any topic and at any level and may include some non-mathematical ones. You might wish to have a list of questions ready prepared, or you might prefer to make them up as you go along. A few sample sets of questions suitable for students in Years 7 to 9 are provided at the end of this document. The later ones are a bit harder than the earlier ones.

Instructions

Divide the class into two equal teams – left and right sides of the classroom. You might need to ask one or two students to move to the other side to make numbers equal. Try to keep the two halves roughly balanced ability-wise. If there is an odd number of students, appoint one to come to the board and be scorer.

Draw a score table on the board like this:

H	Goodies	Baddies	T

Those on the right side of the room (when facing the students) are the Goodies and get the question if the coin comes down Heads; those on the left side of the room are the baddies and get the question if the coin comes down Tails.

Explain the rules, then play.

How to Play

Ask the first question and toss the coin, but don't show it.

When the students have had an appropriate amount of time for the question, look at the coin. If it is heads, the Goodies get the question. If it is tails, the Baddies get the question. Those who know the answer put up a hand up high immediately. Count the hands out loud.

Then pick a student at random from those with their hands up to answer the question.

If they answer it correctly, the team scores one point for each hand that went up.

If they do not, the question passes to the other team who put their hands up immediately. Count hands etc. as for the first team.

If the second team gets the correct answer, they score. If not, no one scores; tell them the answer and go to the next question.

Give a short explanation of how the answer was obtained in some cases.

The scorer keeps a cumulative score on the board.

Rules

Point out to students that they are allowed to bluff and put their hand up if even if they don't know the answer. If they are not chosen, this can give the team one more point. However, they take the risk that they are chosen and the team gets no points,

Only count hands which are right up, or students who are bluffing might say they were just scratching their ear when called upon.

All students must face you. If anyone speaks or communicates after the teacher starts to read the question, that team is disqualified from that question and the question automatically goes to the other team. If it is not answered correctly, it is not passed back.

A little bit of cheering etc. is acceptable, but, if a team is unduly rowdy at any stage, they lose 2 points.

The winning team is the one with the most points at the stopping time.

Tips

A small number of students can spoil this game by repeatedly getting their team disqualified from questions. If this happens, it is probably best to abandon the game and to say that we will give it another go when the students are feeling a bit more cooperative. A quiet word later with the disruptive students may be helpful.

You might be honest about whether the coin is heads or tails. You might even show someone on the team that doesn't get the question so they know you are being honest. However, I find that student generally just trust me and I don't need to show them. This then allows me to take advantage of their trust. If the coin is coming down a lot more heads than tails, say, I might even it up a bit by saying it was tails when it was heads. Even more devious, I might call in favour of the team which is losing so as to keep the scores close and maintain interest. Tut tut.

Goodies and Baddies – Questions – Set 1

$4 + 9$	13
7×6	42
How many centimetres in 4 m	400
How many grams in 2 kg	2000
How many legs on a horse	4
Half of 28	14
Half of 9	4.5 or $4\frac{1}{2}$
One fourth of 36	9
How many hours between 8 am and 11 pm	15
What is the mean of 6, 7 and 8	7
What time is it an hour and a half after 2:15	3:45
How many millilitres in half a litre	500
What is the name of the closest other country Australia	Papua New Guinea
How many centimetres in a kilometre	100 000
15×5	75
$100 - 36$	64
How many sides on a hexagon	6
What is the name for a 4-sided polygon	Quadrilateral
How many days in June and July together	91
What is the name of the highest mountain in the world	Everest
40×4	160
$100 \div 4$	25
$720 - 120$	600
What is the date 10 days after July 23	Aug 2
2^5	32
Which month has the fewest letters in its name	May
Which Beatle died first	John Lennon
23×20	460
What number must you add to 12 to get 27	15
What is the next number in this pattern: 5, 8, 11, 14	17
What type of triangle has all sides the same length	Equilateral
How many 20c coins would it take to make \$12	60
What is the capital of Russia	Moscow
What time is it $5\frac{1}{2}$ hours before 2 o'clock	8:30
What is the area of a rectangle 10 m long and 5 m wide in square metres	50 m^2
One tenth of 200	20
10% of \$60	\$6
What is the change from \$10 if you spend \$6.65	\$3.35
How many grams in 2 kilograms	2000
$\frac{1}{2} + \frac{1}{4}$	$\frac{3}{4}$
$2.6 - 0.8$	1.8
How many days in 5 weeks	35
Who was the first US president	Washington
How many letters in the alphabet	26
111×8	888

Goodies and Baddies – Questions – Set 2

$7 + 3$	10
8×3	24
$31 + 10$	41
$61 - 20$	41
30×3	90
$100 \div 10$	10
Half of 14	7
How many legs on a spider	8
How many \$3 drinks can you buy with \$20	6
How many kilograms in a tonne	1000
What time is it $2\frac{1}{4}$ hours after 4:30	6:45
How many days in 3 weeks	21
Other than Queensland and Victoria, which state is closest to New South Wales	South Australia
What is the median of 3, 4 and 10	4
What day is it 14 days after Tuesday	Tuesday
What day is it 71 days after Sunday	Monday
Who was prime minister of Australia before Scott Morrison (both names)	Malcolm Turnbull
5^3	125
What is the change from \$20 if you spend \$4.70	\$15.30
What is the cost of 10 donuts at 75c each	\$7.50
How many metres in a kilometre	1000
$100 - 54$	46
A word that means 'collection' and 'go hard'	set
How many inches in a foot	12
If $a \times 3 = 6$, what does a equal	2
How many sides on a pentagon	5
What do we call a polygon with 8 sides	octagon
Spell 'scalene'	scalene
3×14	42
How many hours in 5 days	120
If I travel at 10 km/h for 2 hours, how many kilometres will I go	20
I have twice as many cats as dogs. If I have 2 cats, how many dogs	1
The principal's full surname	
The name for an angle less than 90°	Acute
20×3	60
$37 - 27$	10
The area of a rectangle 5 cm by 9 cm in cm^2	45
How many hours between 10 am and 1 pm	3
$6 \times 4 \times 2 \times 0$	0
The next number in this pattern: 60, 75, 90, 105, ...	120
How many 5c coins would make \$1.50	30
How many equal sides on an isosceles triangle	2
How many milliamps in 1 amp	1000
15×2	30
Of which country is Paris the capital	France

Goodies and Baddies – Questions – Set 3

$7 + 9$	16
8×9	72
$31 + 14$	45
$60 - 24$	36
30×30	900
$1000 \div 5$	20
Half of 13	6.5 or $6\frac{1}{2}$
How many legs on an ant	6
How many \$2.50 drinks can you buy for \$100	40
How many litres in a cubic metre	1000
What time is it $2\frac{1}{2}$ hours after 4:30	7:00
How many days in 20 weeks	140
What is the capital of Japan	Tokyo
What is the median of 3, 4, 6 and 15	5
What day is it 28 days after Tuesday	Tuesday
What day is it 55 days after Sunday	Saturday
4^3	64
What is the change from \$20 if you spend \$13.10	\$13.50
What is the cost of 20 donuts at 75c each	\$15
How many watts in a kilowatt	1000
$1000 - 540$	460
A word fits in 'sausage', 'drum' and '..... of honour'	roll
How many eggs in a dozen	12
If $a \times 3 + 1 = 10$, what does a equal	3
How many sides on a pentagon	5
What do we call a polygon with 3 sides	triangle
Spell 'isosceles'	isosceles
$2 + 3 \times 4$	14
How many hours in $1\frac{1}{2}$ days	36
If I travel at 60 km/h for 3 hours, how far will I go	180 km
I have two more cats than dogs. If I have 12 pets, how many dogs	5
The name of the first man to walk on the moon (both names)	Neil Armstrong
The name for an angle more than 90° but less than 180°	Acute
23×3	69
$1 - 5$	-4
The perimeter of a rectangle 12 cm by 7 cm	38 cm
1500 hours in am/pm time	3 pm
$27 - 28$	-1
$1 \times 2 \times 3 \times 4$	24
The next number in this pattern: 60, 49, 38, 27, ...	16
How many quarters in $3\frac{1}{2}$	14
How many pairs of parallel sides on a trapezium	1
How many day from October 1 to December 31 inclusive	92
45×2	90
Of which country is Buenos Aires the capital	Argentina

Goodies and Baddies – Questions – Set 4

$2 + 4$	6
4×50	200
700×100	70 000
$36 \div 2$	18
How many seconds in 5 minutes	300
Which is the largest country by area	Russia
How many sides on an isosceles triangle	3
Half of 19	9.5 or $9\frac{1}{2}$
The cost of 6 stamps at 55c each	\$1.20
The time half hour after 2:45	3:15
The month 7 months before May	October
The year 18 years before 2003	1985
15×12	180
In which country is the Eiffel Tower	France
How many kilometres around the world	40 000
$1000 - 405$	595
Two thirds of 12	8
$2 \div 2 \times 2 \div 2$	1
What is the capital of Portugal (it is the only word that rhymes with Brisbane)	Lisbon
What is the name of a 10-sided polygon	decagon
90×9	810
14×7	98
The range of 2, 4 and 7	5
How many days in February 2028	29
Give one factor of 10	1, 2, 5, or 10
How many factors does 12 have	6
$44 \div 8$	5.5 or $5\frac{1}{2}$
How many litres in a megalitre	1 000 000
How many millimetres in a kilometre	1 000 000
What is the formula for the area of a parallelogram	$l \times w$
What is the mathematical name for the shape of a round ball	sphere
What is the proper name for the width of a circle	diameter
In which continent is Egypt	Africa
How many states in the US	50
$7 + 8 + 9 + 10 + 11$	45
$1 \times 2 \times 3 \times 4 \times 5$	120
The name for a 90° angle	right angle
The name for an angle between 180° and 360°	reflex
The mode of 2, 8, 9, 9	9
45×12	540
20×30	600
The world's largest living animal species	blue whale
$60 \div 4$	15
If I travel for $2\frac{1}{4}$ hours at 40 km/h, how far will I go	90 km
$99 - 45$	54

Goodies and Baddies – Questions – Set 5

$8 + 4$	14
4×-7	-28
7×105	735
$160 \div 20$	8
How many seconds in 3 minutes	180
Which is the largest state in Australia	Western Australia
How many faces on a triangular prism	5
$\frac{4}{7}$ of 28	16
The cost of 16 cards at 20c each	\$3.20
The time $3\frac{1}{2}$ hours after 2:45	6:15
The month 50 months after May	July
The year 118 years after 1939	2057
25×4000	100 000
The square root of 400	20
People from Barbados play for which test cricket team	West Indies
$100 - 40.5$	59.5
$\frac{3}{4}$ of 24	18
2^{10}	1024
World War 2 finished in which year	1945
0.5×0.5	0.25
140×30	4200
The mean of 1, 4 and 16	7
How many days in a leap year	366
Which is the fifth planet from the Sun	Jupiter
How many hours from 4 a.m. Tuesday to 7 p.m. Wednesday	39
What is the second largest country	Canada
$144 \div 20$	7.2
How many kilolitres in a megalitre	1000
How many hours in June	720
How many eyes does a lion have	2
What is the mathematical name for the shape of a tin of dog meat	cylinder
What is the proper name for the perimeter of a circle	circumference
In which continent is Mongolia	Asia
Are there more or less than 150 countries in the world	more
$1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$	55
3^4	81
The name for a 180° angle	straight angle
The name for quadrilateral with all its sides equal	rhombus
The median of 2, 8, 9, 9	8.5
145×3	435
0.2×500	100
Africa's highest mountain	Kilimanjaro
$90 \div 4.5$	20
If I travel for 140 minutes at 60 km/h, how far will I go	140 km
$7 - 16$	-9