

Daily Maths Workout

Free sample

This sample has the **whole first week** (days 1 to 7) of the full booklet, plus **day 200** and **day 330**, so you can see how the questions get harder through the year. The answer pages for those days are at the back.

Every day is one page of 5 questions on 5 different topics. Question 1 is a warm-up and question 5 is a stretch.

The full booklet has **365 days and 1825 questions**, a year tracker and a 97-page answer booklet.

THE PHYSICS QUESTION BANK

Daily Maths Workout

365 days of 5 mixed questions for KS2 SATs and the 11+

Year 5 and Year 6

Name: _____

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All questions are original. This booklet may be printed for use by the purchaser's own household or class.

How to use this booklet

- **One page a day.** Each day has 5 questions on 5 different topics. It should take about 10 to 15 minutes.
- **The questions get a little harder.** Question 1 is the easiest and question 5 the hardest. The whole booklet also gets harder through the year, in four quarters.
- **Show your working** in the boxes. Write your final answer in the answer box.
- **Mark it straight away** using the separate answer booklet. Write your score out of 5 at the bottom of the page and shade that day on the tracker.
- **Got one wrong?** Read the method in the answer booklet, then try the question again the next day.
- The level of each question is shown next to it: **SATs core** **SATs stretch**
11+ standard **11+ selective**. Speed, distance and time and probability are 11+ topics and are not tested in KS2 SATs.

The four quarters

Days	Focus
1 to 91	Mostly SATs core, with some SATs stretch
92 to 182	SATs core and stretch, with one 11+ standard question
183 to 273	SATs stretch and 11+ standard
274 to 365	Ending each day with an 11+ selective challenge

Day 1

Week 1 · Date: _____ · Score: ____ / 5

1**Place Value, Rounding and Negative Numbers** (SATs core)

Round 20741 to the nearest 10.

Answer

2**Coordinates and Transformations** (SATs core)

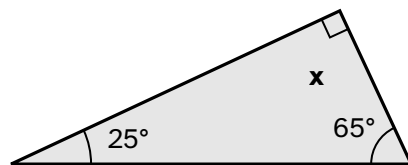
A straight line joins (14, 13) and (14, 6). The squares on the grid are 1 cm wide.
How long is the line?

Answer

3**Factors, Multiples and Primes** (SATs core)

List all the factors of 74.

Answer

4**Angles** (SATs stretch)Work out the size of angle **x** in this triangle.

Not drawn accurately

Answer

5**Probability** (SATs stretch)

Each letter of the word **MATHEMATICS** is written on a separate card. One card is picked at random.

What is the probability that it shows a vowel (A, E, I, O or U)?

Answer

Day 2

Week 1 · Date: _____ · Score: ____ / 5

1**Decimals and Percentages** SATs coreWork out $21.72 \div 3$

Answer

2**Units, Money and Time** SATs core

Kai buys a sandwich for £2.80 and a drink for £0.75. Kai pays with a £10 note.
How much change should Kai get?

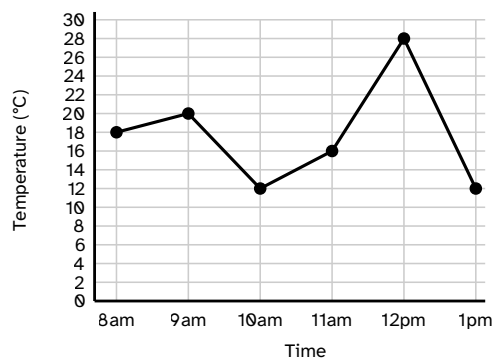
Answer

3**Algebra** SATs coreWrite the missing number: $26 + \square = 215$

Answer

4**Statistics, Charts and Averages** SATs stretch

The line graph shows the temperature in a greenhouse. Between which two times did the temperature rise the most, and by how much?



Answer

5**Problem Solving and Number Puzzles** SATs stretch

A sequence starts 5, 8, 11, 14, ... and goes up by the same amount each time.
What is term number 30?

Answer

Day 3

Week 1 · Date: _____ · Score: ____ / 5

1**Addition, Subtraction, Multiplication and Division** (SATs core)Work out 2112×5

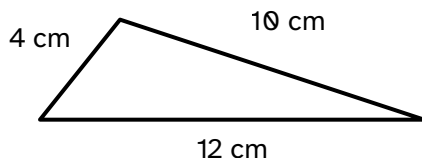
		2	1	1	2	
x					5	

Answer

2**Properties of Shapes** (SATs core)

What type of triangle is this?

Choose from: equilateral, isosceles, scalene.



Answer

3**Speed, Distance and Time** (SATs core)

A horse trots at 10 km/h for 4 hours.

How far does it go?

Answer

4**Area, Perimeter and Volume** (SATs stretch)The net of a cube is made from 6 squares and has a total area of 54 cm^2 . What is the volume of the cube?

Answer

5**Ratio and Proportion** (SATs stretch)

In a car park, the ratio of cars to bikes is 3 : 1. What percentage are cars?

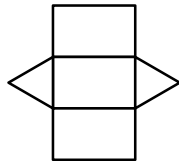
Answer

Day 4

Week 1 · Date: _____ · Score: ____ / 5

1**Fractions** (SATs core)Find $\frac{2}{5}$ of 15**Answer****2****Properties of Shapes** (SATs core)

This is the net of a 3-D shape. Name the 3-D shape.

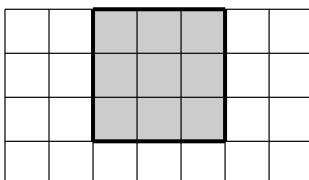
**Answer****3****Speed, Distance and Time** (SATs core)

Chloe cycles 18 km in 3 hours. Amara cycles 80 km in 5 hours.

Who is faster, and by how many km/h?

Answer**4****Area, Perimeter and Volume** (SATs stretch)

The shape is drawn on a grid of 1 cm squares. What is its perimeter?

**Answer****5****Factors, Multiples and Primes** (SATs stretch)

Which of these are cube numbers?

74 64 216 95 181

Answer

Day 5

Week 1 · Date: _____ · Score: ____ / 5

1

Fractions (SATs core)

Work out $\frac{3}{5} \times 4$

Answer

2

Ratio and Proportion (SATs core)

Write the ratio 8 : 4 : 20 in its simplest form.

Answer

3

Algebra (SATs core)

Write the missing number: $\square - 1.7 = 8.9$

Answer

4

Probability (SATs stretch)

A bag holds 5 black and 6 green counters. One is picked at random.

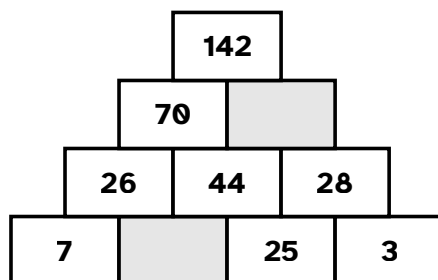
What is the probability it is green? Give your answer as a fraction in its simplest form.

Answer

5

Problem Solving and Number Puzzles (SATs stretch)

Each brick is the sum of the two bricks below it. What number goes in the empty brick on the bottom row?



Answer

Day 7

Week 1 · Date: _____ · Score: ____ / 5

1**Place Value, Rounding and Negative Numbers** (SATs core)

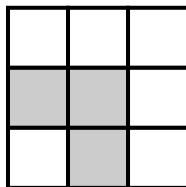
What is the value of the digit 8 in 42.589?

Answer**2****Units, Money and Time** (SATs core)

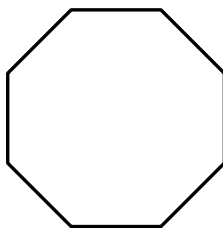
Write 2199p in pounds.

Answer**3****Fractions** (SATs core)

What fraction of the shape is shaded? Give your answer in its simplest form.

**Answer****4****Properties of Shapes** (SATs stretch)

This shape is a regular octagon. How many lines of symmetry does it have?

**Answer****5****Factors, Multiples and Primes** (SATs stretch)

I am an even number between 33 and 56.

I am a multiple of 3. My digits add up to 12.

What number am I?

Working

Answer

Day 200

Week 29 · Date: _____ · Score: ____ / 5

1**Ratio and Proportion** (SATs core)

6 badges cost 72p. How much do 3 badges cost?

Answer**2****Factors, Multiples and Primes** (SATs stretch)

Write all the cube numbers between 200 and 360.

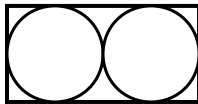
Answer**3****Addition, Subtraction, Multiplication and Division** (SATs stretch)Work out $1392 \div 12$

1	2	1	3	9	2

Answer**4****Properties of Shapes** (11+ standard)

2 identical circles fit exactly inside a rectangle, in a row. The perimeter of the rectangle is 48 cm.

What is the radius of each circle?



Not drawn accurately

Answer**5****Statistics, Charts and Averages** (11+ standard)

Ruby recorded the number of birds on a feeder each morning:

5, 2, 15, 7, 7, 6

What is the mode?

Working

Answer

Day 330

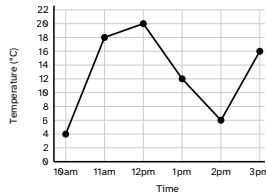
Week 48 · Date: _____ · Score: ____ / 5

1**Probability** (SATs core)

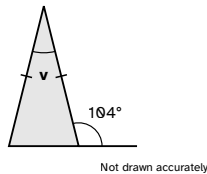
A bag has 5 white, 4 red and 2 green counters. One counter is taken without looking. Is it more likely to be green or red? Explain why.

Answer**2****Statistics, Charts and Averages** (SATs stretch)

The line graph shows the temperature in a greenhouse. Between which two times did the temperature fall the most, and by how much?

**Answer****3****Angles** (11+ standard)

The triangle is isosceles and one side has been extended. Work out angle v .



Working

Answer**4****Units, Money and Time** (11+ standard)

Mohammed wants to buy a board game costing £55.00. Mohammed has already saved £14.00 and saves £4.00 each week. How many weeks will it take until Mohammed has enough money?

Working

Answer**5****Factors, Multiples and Primes** (11+ selective)

The number **2,78□** is divisible by both 3 and 4. What is the missing digit?

Working

Answer

THE PHYSICS QUESTION BANK

Daily Maths Workout: Answers

Answers and methods for all 1825 questions

Year 5 and Year 6

Name: _____

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Answers

Day 1

- 1 20740**
Look at the ones digit: 20741 is nearer to 20740.
- 2 7 cm**
The x-coordinates match, so subtract the others: $13 - 6 = 7$ cm
- 3 1, 2, 37, 74**
Factor pairs: 1×74 , 2×37
- 4 90°**
Angles in a triangle add up to 180° : $180 - 25 - 65 = 90^\circ$
- 5 4/11**
4 out of 11 cards: 4/11

Day 2

- 1 7.24**
Short division, keeping the decimal point in line. Check: $7.24 \times 3 = 21.72$
- 2 £6.45**
 $£2.80 + £0.75 = £3.55$; $£10 - £3.55 = £6.45$
- 3 189**
Use the inverse operation: the missing number is 189
- 4 11am and 12pm, 12°C**
Compare each step: biggest rise is 16 to 28 (12°C)
- 5 92**
Term $30 = 5 + 29 \times 3 = 92$

Day 3

- 1 10560**

		2	1	1	2
x					5
	1	0	5	6	0
	1			1	

Ones: $2 \times 5 = 10$, write 0 carry 1. Tens: $1 \times 5 = 5$, add the 1 to make 6, write 6.
Hundreds: $1 \times 5 = 5$, write 5. Thousands: $2 \times 5 = 10$, write 10.
- 2 scalene**
It is scalene because no two sides are equal.
- 3 40 km**
Distance = speed $\times$ time = $10 \times 4 = 40$ km
- 4 27 cm^3**
One face = $54 \div 6 = 9 \text{ cm}^2$, so edge = 3 cm; volume = 27 cm^3
- 5 75%**
Cars are $\frac{3}{4}$ of the total = 75%

Day 4

- 1 6**
 $15 \div 5 = 3$, then $\times 2 = 6$
- 2 triangular prism**
The net has 5 faces; folding them up makes a triangular prism.
- 3 Amara, by 10 km/h**
Chloe: $18 \div 3 = 6 \text{ km/h}$; Amara: $80 \div 5 = 16 \text{ km/h}$
- 4 12 cm**
Count the 1 cm edges around the outside: 12
- 5 64, 216**
 $4^3 = 64$. $6^3 = 216$.

Day 5

- 1 **$2^2/5$**
 $3 \times 4 = 12$, so $12/5 = 2^2/5$
- 2 **2 : 1 : 5**
 Divide every part by 4
- 3 **10.6**
 Use the inverse: the missing number is 10.6
- 4 **6/11**
 6 green out of 11 counters = 6/11
- 5 **19**
 Work down: subtract the known brick from the brick above it.

Day 6

- 1 **(8, 4)**
 $x: 7 + 1 = 8$; $y: 0 + 4 = 4$
- 2 **$187/200$**
 $0.935 = 935/1000 = 187/200$
- 3 **49**
 $7 + 15 + 11 + 16 = 49$
- 4 **74**

			7	4	
2	8	2	0	7	2
	-	1	9	6	
			1	1	2
		-	1	1	2
					0

28 into 20 won't go, so use 207. 28 into 207 goes 7 ($7 \times 28 = 196$). $207 - 196 = 11$. Bring down the 2 to make 112. 28 into 112 goes 4 ($4 \times 28 = 112$). $112 - 112 = 0$. Check: $74 \times 28 = 2072$
- 5 **75°**
 Smaller = s ; $s + 5s = 90$, so $6s = 90$, $s = 15^\circ$; larger = 75°

Day 7

- 1 **0.08 (8 hundredths)**
 The 8 is in the hundredths column.
- 2 **£21.99**
 $100p = £1$, so $2199p = £21.99$
- 3 **$1/3$**
 3 out of 9 squares: $3/9 = 1/3$
- 4 **8**
 A regular octagon: 8 lines of symmetry, rotational order 8, 4 pairs of parallel sides, 0 right angles.
- 5 **48**
 List the even multiples of 3 between 33 and 56 and check the digit sums.

Day 8

- 1 **3 right and 4 up**
 Pick one corner of A and its matching corner of B: it moves 3 right and 4 up.
- 2 **2.48**
 $124 \times 2 = 248$, then put the decimal point back
- 3 **185°**
 Angles around a point add up to 360° :
 $360 - 110 - 65 = 185^\circ$
- 4 **36 km**
 $1 \text{ hour } 30 \text{ minutes} = 3/2 \text{ of an hour}$; $24 \times 3/2 = 36 \text{ km}$
- 5 **56**
 Division is the inverse of multiplication.

Day 199

- 1** **t = 12**
 $36 \div 3 = 12$
- 2** **3**
 An equilateral triangle: 3 lines of symmetry, rotational order 3, 0 pairs of parallel sides, 0 right angles.
- 3** **58°**
 Angles in a quadrilateral add up to 360°: $360 - 139 - 84 - 79 = 58^\circ$
- 4** **27 cm²**
 Full rectangle $7 \times 5 = 35$, minus the cut-out corner $4 \times 2 = 8$: 27 cm^2
- 5** **£192**
 $10\% = £16$, so $20\% = £32$; $£160 + £32 = £192$

Day 200

- 1** **36p**
 One costs $72\text{p} \div 6 = 12\text{p}$; $3 \times 12\text{p} = 36\text{p}$
- 2** **216, 343**
 Cube numbers: 1, 8, 27, 64, 125, 216, 343, 512, 729, 1000, 1331
- 3** **116**

			1	1	6
1	2	1	3	9	2
	-	1	2		
			1	9	
		-	1	2	
				7	2
			-	7	2
					0

12 into 1 won't go, so use 13. 12 into 13 goes 1 ($1 \times 12 = 12$). $13 - 12 = 1$. Bring down the 9 to make 19. 12 into 19 goes 1 ($1 \times 12 = 12$). $19 - 12 = 7$. Bring down the 2 to make 72. 12 into 72 goes 6 ($6 \times 12 = 72$). $72 - 72 = 0$. Check: $116 \times 12 = 1392$
- 4** **4 cm**
 The perimeter is $2 \times (2 + 1) = 6$ diameters; $48 \div 6 = 8 \text{ cm}$, so radius = 4 cm
- 5** **7**
 7 appears most often (2 times).

Day 328

- 1 1, 25**
 $1 \times 1 = 1$; $5 \times 5 = 25$.
- 2 10 left and 4 up**
 x changes by $-4 - 6 = -10$; y changes by $1 + 3 = 4$
- 3 12**
 Try $n \times (n - 1) \div 2$: $12 \times 11 \div 2 = 66$
- 4 5 cm**
 Perimeter = $10 \times 3 = 30$ cm; $30 \div 6 = 5$ cm
- 5 £200**
 $\pounds 150$ is 75% of the original; $\div 75 \times 100 = \pounds 200$
-

Day 329

- 1 $\frac{25}{4}$**
 $6 \times 4 + 1 = 25$
- 2 40**
 $5 + 4 = 9$ parts; $90 \div 9 = 10$; $4 \times 10 = 40$
- 3 50 km/h**
 Distance = $5 + 20 = 25$ km; time = 30 minutes = $\frac{1}{2}$ h; $25 \div \frac{1}{2} = 50$ km/h
- 4 0, 1, 2, 3, 4**
 Check which digits make the number round to 91600.
- 5 24 cm²**
 The perimeter is 14 square sides, so one side = $28 \div 14 = 2$ cm; area = $6 \times 2^2 = 24$ cm²
-

Day 330

- 1 red (there are more red counters)**
 green: 2, red: 4. More counters means more likely.
- 2 12pm and 1pm, 8°C**
 Compare each step: biggest fall is 20 to 12 (8°C)
- 3 28°**
 Base angle = $180 - 104 = 76^\circ$; both base angles are 76° ; $v = 180 - 2 \times 76 = 28^\circ$
- 4 11 weeks**
 Still needs $\pounds 41.00$; after 10 weeks Mohammed has saved $\pounds 40.00$ more (not enough), after 11 weeks $\pounds 44.00$
- 5 4**
 It must be a multiple of 12: $2784 \div 12 = 232$
-

Day 331

- 1 54 m²**
 $9 \times 6 = 54$ m²
- 2 34**
 The magic total is 117. Use a line with only one gap.
- 3 35728**
 $34000 + 1700 + 20 + 8 = 35728$
- 4 A**
 Statement A is false: "An isosceles triangle has 3 equal sides." The other three are not.
- 5 6**
 Mei : Priya = $2/7 \div 4/7 = 1 : 2$; $18 \div 3 = 6$; $1 \times 6 = 6$
-

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