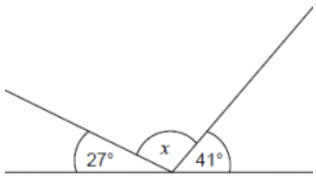
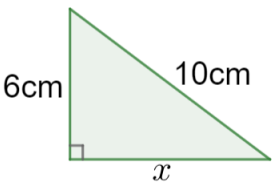
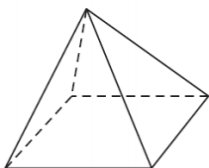
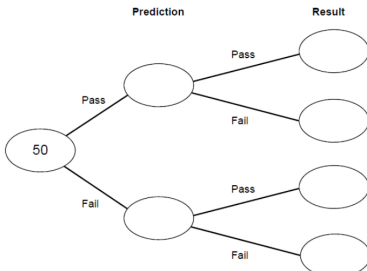


MATHS GCSE: BREAKFAST WARM UP – FOUNDATION (PAPER 1)



ALGEBRA	GEOMETRY	NUMBER	RATIO	PROBABILITY & STATISTICS
Solve $3x + 5 = 23$	Work out the size of angle x 	Put brackets in these calculations to make them correct. i. $5 - 3 \times 12 \div 4 = 6$ ii. $6 \times 4 + 3^2 - 5 = 289$	Two people share £350 in the ratio 2 : 5. Calculate how much each person receives.	There are 3 red beads and 1 black bead in a bag. A bead is taken at random from the bag. What is the probability the bead is black?
Solve $2x + 8 \geq 5x - 4$	A circle has radius 3 cm. Work out the area of the circle. Give your answer in terms of π .	Estimate the value of $\frac{4.34 \times 19.2}{11.2}$	A bakery with 5 bakers usually produces 300 loaves of bread each day. If a baker phones in ill, how many loaves of bread will the remaining 4 bakers produce?	There are 25 boys and 32 girls in a club. $\frac{2}{5}$ of the boys and $\frac{1}{2}$ of the girls walk to the club. The club leader picks at random a child from the children who walk to the club. Work out the probability that this child is a boy.
$-2, 3, 8, 13, \dots$ Write down the n^{th} term rule for this sequence.	Work out the length of the missing side. 	a. Write down a prime number between 14 and 22 b. Write down three different multiples of 4 that add up to 40	Ingredients for 16 mince pies: 240g of butter 350g of flour 100g of sugar 280g of mincemeat How much butter will be needed to make 20 mince pies?	50 people took a test. Before the test, they predicted whether they would pass or fail. <ul style="list-style-type: none"> 30 people predicted they would pass 26 of the people who predicted they would pass did pass. 37 people passed altogether Complete the frequency tree
Factorise $x^2 - 3x - 28$	Here is a square based pyramid  How many faces does it have? How many edges does it have?	a. Write 856 000 000 in standard form. b. Write 4.31×10^{-3} as an ordinary number.	Peter drove from Leeds to Newcastle. It took him 2 hours at an average speed of 90km/h Sally also drove from Leeds to Newcastle along the same roads. She took 3 hours. Work out Lyn's average speed.	

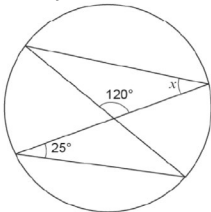
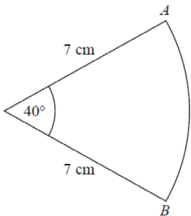
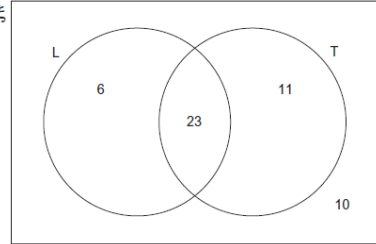
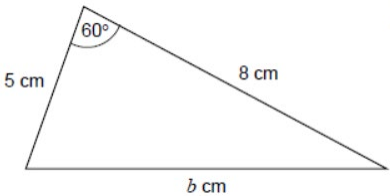
MATHS GCSE: BREAKFAST WARM UP – FOUNDATION (PAPER 1) ANSWERS



ALGEBRA	GEOMETRY	NUMBER	RATIO	PROBABILITY & STATISTICS
$x = 6$	112°	i. $(5 - 3) \times 12 \div 4 = 6$ ii. $6 \times (4 + 3)^2 - 5 = 289$	$\text{£}100 : \text{£}250$	$\frac{1}{4}$
$4 \geq x$	9π	8	240 loaves of bread	$\frac{10}{26}$
$5n - 7$	8 cm	a. 17 or 19 b. $8 + 12 + 20$	300g butter	<pre> graph TD P50((50)) -- Fail --> P20((20)) P50 -- Pass --> P30((30)) P20 -- Fail --> R9((9)) P20 -- Pass --> R11((11)) P30 -- Fail --> R4((4)) P30 -- Pass --> R26((26)) </pre>
$(x - 7)(x + 4)$	5 faces 8 edges	a. 8.56×10^8 b. 0.00431	60km/h	

MATHS GCSE: BREAKFAST WARM UP – HIGHER (PAPER 1)



ALGEBRA	GEOMETRY	NUMBER	RATIO	PROBABILITY & STATISTICS
<p>Factorise:</p> <p>a) $6x^2 + 8x$</p> <p>b) $x^2 - 81$</p>	<p>Write down the exact value of</p> <p>a) $\cos(30)$</p> <p>b) $\tan(60)$</p>	<p>Write down the value of</p> <p>a) $9^{-\frac{1}{2}}$</p> <p>b) $\left(\frac{27}{8}\right)^{-\frac{2}{3}}$</p>	<p>Peter has £30 more than Nimra. They have £110 in total. What fraction of the total does Peter have?</p>	<p>Five whole numbers are written in order</p> <p>4 7 x y 11</p> <p>Work out the value of x and y if the mean and median of the five numbers are the same.</p>
<p>Solve</p> <p>$9x - 4 = 7(x + 2)$</p>	<p>Calculate angle x. You must give reasons for your answer.</p> 	<p>Write $\sqrt{12} + \frac{15}{\sqrt{3}}$ in the form $a\sqrt{b}$</p>	<p>Write this ratio in its simplest form</p> <p>$\sqrt{12} : \sqrt{48} : \sqrt{300}$</p>	<p>A bag contains 7 red balls and 4 blue balls. Two balls are chosen at random without replacement. What is the probability that the two balls are the same colour?</p>
<p>Simplify</p> <p>$\frac{2x^2 - 3x - 5}{x^2 + 6x + 5}$</p>	<p>Work out the length of AB. Give your answer in terms of π.</p> 	<p>Laura puts £600 in a bank account. The account pays 3% compound interest each year. After one year she withdraws £200. How much will she have in the account after two years?</p>	<p>There are 200 students in year 10 110 are boys</p> <p>There are 250 students in year 11 140 are boys</p> <p>Which year has the greater proportion of boys?</p>	<p>Here is a Venn diagram</p> <p>Set L represents students with a laptop.</p> <p>Set T represents students with a TV.</p>  <p>a) Work out $P(L)$</p> <p>b) Work out $P(L \cap T)$</p> <p>c) $P(\text{_____}) = \frac{21}{50}$</p>
<p>Solve</p> <p>$5x - y = 5$ $2y - x^2 = 11$</p>	<p>Find length b</p> 	<p>One lap of a racing circuit is $3\frac{3}{4}$ km Work out the total distance for $4\frac{1}{2}$ laps.</p>	<p>White paint costs £2.80 per litre Blue paint costs £3.50 per litre White paint and blue paint are mixed in the ratio 3 : 2. Work out the cost of 18 litres of the mixture.</p>	

MATHS GCSE: BREAKFAST WARM UP – HIGHER (PAPER 1)



ALGEBRA	GEOMETRY	NUMBER	RATIO	PROBABILITY & STATISTICS
a) $2x(3x + 4)$ b) $(x + 9)(x - 9)$	a) $\frac{\sqrt{3}}{2}$ b) $\sqrt{3}$	a) $\frac{1}{3}$ b) $\frac{4}{9}$	$\frac{7}{11}$	$x = 8$ $y = 10$
$x = 9$	$x = 35^\circ$ Angles in the same segment are equal and angles in a triangle sum to 180°	$7\sqrt{3}$	$\sqrt{3} : 2\sqrt{3} : 5\sqrt{3}$	$\frac{54}{110}$
$\frac{2x - 5}{x + 5}$	$\frac{14}{9}\pi$	£430.54	Year 11 $(56/100 > 55/100)$	a) $\frac{29}{50}$ b) $\frac{23}{50}$ c) $P(L')$
$x = 3, y = 10$ $x = 7, y = 30$	$b = 7 \text{ cm}$	$16\frac{7}{8} \text{ km (oe)}$	£55.44	