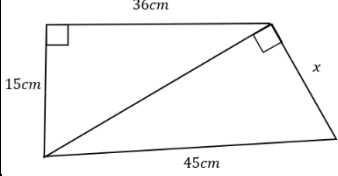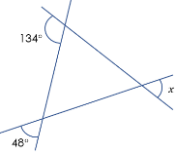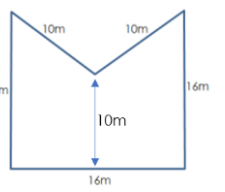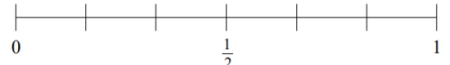# A BIT OF MATHS EACH DAY – FOUNDATION TIER – MAY 2022 – CALCULATOR – PAPER 3

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
30th	**31st**					**1ST**
From this list of numbers… 2, 8, 9, 10, 11, 24, 27, 36, 48 Write down an example of and explain the meaning of (a) a factor of 20 (b) a multiple of 6 (c) a prime number (d) a square number (e) a cube number	18cm 12cm 27m Find the area of this trapezium.	**May Calculator PAPER 3**	The best way to learn mathematics is to DO mathematics. If you do something regularly on a daily basis you will make a bigger difference than leaving it till just before your exams. If you need help there are some fantastic videos at www.corbettmaths.com Or you can always tweet me **@mrchadburn** This calendar has been designed with the Edexcel Paper 3 topic list in mind.			$M = 2r - 3p^2$ Find the value of M when $r = 10$ and $p = -4$
2nd	**3rd**	**4th**	**5th**	**6th**	**7th**	**8th**
Make r the subject of the formula $p = \dfrac{3r^2 - n}{5}$	There are 6234 people at a music concert. 2107 are men, 2522 are women. $^2/_5$ of the children at the concert are boys. What percentage of those at the concert are girls?	Find the Lowest Common Multiple and Highest Common Factor of 24 and 36.	A triangle has a base of 8cm. Its area is 30cm². What is its perpendicular height?	Work out the missing values in the fraction chain… $\dfrac{3}{\ \ } = \dfrac{\ \ }{32} = \dfrac{27}{72} = \dfrac{45}{\ \ }$	36cm 15cm x 45cm	Find the length of x.
9th	**10th**	**11th**	**12th**	**13th**	**14th**	**15th**
A rectangle has a length of 1.8m and width of 65cm. (a) Write the ratio of width to length in the form 1 : n. Another rectangle is in the same proportion. Its width is 90cm. What is its length?	(a) Use a calculator to work out the answer to $\dfrac{(7.31 + 2.931)^2}{72 - 18.8}$ writing down the full calculator display. (b) Round your answer to (a) correct to 3 significant figures.	A fair spinner has 10 equal sections numbered 1 to 10. What is the probability that, when spun, it lands on a prime number?	The population of the Isle of Bramall increases at the rate of 12% each year. In 2021 the population was 225,792. What was the population in 2019?	134° x 48° Find the size of angle x. Give full geometric reasons.	A plane flies from an airport, A, on a bearing of 110° for 450km. It then changes direction and travels on a bearing of 80° for 250km until it reaches its destination at airport B. (a) Using a scale of 1cm = 50km draw a scale drawing to illustrate the journey. The plane flies directly back from B to A. (b) Use your scale drawing to estimate the bearing it must travel on and the distance it needs to travel.	
16th	**17th**	**18th**	**19th**	**20th**	**21st**	**22nd**
10m 10m 16m 16m 10m 16m Find the area of this pentagon	Expand and fully simplify (a) $5(3x + 1) + 2(5 - 2x)$ (b) $(x + 9)(2x - 3)$	(a) Find the nth term for the sequence 7, 11, 15, 19, 23, 27,… (b) Paul says that 325 is in both the sequence in (a) and the sequence with nth term 8n – 9. Is Paul correct? Explain your reasoning.	Handspan, h, cm / Frequency 10 ≤ h < 14 : 3 14 ≤ h < 18 : 17 18 ≤ h < 22 : 19 22 ≤ h < 26 : 12 26 ≤ h < 30 : 9 The table shows the handspan of 60 men. Draw a frequency polygon to illustrate the data.	It takes 6 painters 4 days to paint 12 rooms. How long will it take 3 painters to paint 15 rooms?	0 $\frac{1}{2}$ 1 On the probability scale, mark the probability of getting the following when throwing a fair die… (a) a 2 (b) a number bigger than 4 (c) a 10	
23rd	**24th**	**25th**	**26th**	**27th**	**28th**	**29th**
Factorise the following expressions… (a) $4x^3 - 9x^5$ (b) $12ab - 3b + 9ab^2$	The bearing of B from A is 140°. What is the bearing of A from B?	Gladys does an iron-woman event involving swimming 2km, running 5km and cycling 20km. She swims at a speed of 1.4km/hr, runs at 6km/hr and cycles at 15km/hr. How long does she take to complete the event? Give your answer in hours and minutes to the nearest minute.	Paul wage is £1260 per month. He spends $\frac{1}{3}$ on rent He spends 15% on food. He spends $\frac{1}{12}$ on gas/electricity. How much does he have left after paying these bills?	Ann, Ben, Chris and Denise have some marbles. Ben has three times as many marbles as Ann. Chris has seven fewer than Ben. Denise has 13 more than Ann. Chris and Denise have the same number of marbles. How many marbles do they have in total?	Points / Frequency 0 : 7 1 : 14 2 : 11 3 : 6 4 or more : 0	The table shows the number of goals scored by Thurlstone Town during a season. (a) What was the mean number of goals scored? (b) What was the range of the number of goals scored? Their rivals, Thurlstone Rovers had a range of 8 goals and a mean of 1,1 goals per game. Compare the goal scoring of the two teams over the season.