## UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND



## PASSPORT

TO A MATHS GRADE A\*/A















Algebra A/A*		
Find the midpoint of the following coordinates. (-4,6,10) (10,-8,6)	Express $x^2 + 6x - 2$ in the form $(x + p)^2 + q$ . Find the value of p and q.	
Use the quadratic formula to solve. $x^2 - 4x - 8 = 0$	Solve the following pair of simultaneous equations. $y = x^2 - 1$ y = 5 - 1	
Factorise the following expressions: <i>a</i> ) $4x + 20$ <i>b</i> ) $3y^2 + 12y$ <i>c</i> ) $x^2 + 4y - 21$	The equation of a line is y = 2x + 5 Write the equation of a line that is: a) Parallel to $y = 2x + 5$ through the point (3,4). b) Perpendicular to $y = 2x + 5$ through the point (-2,5).	
Show that $\frac{4}{a+a^2} \times \frac{a^3 - a}{ab} = \frac{4(a-1)}{ab}$	Make x the subject of the formula. $y = \frac{x + 2a}{x - a}$	

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Evaluate the following:	There is a 45% sale.
a) $4^0$	How much did the doll
	originally cost?
$\frac{2}{1022}$	
D 123 <sup>3</sup>	
$\frac{1}{1}$	[INIAS:
<i>C)</i> 64 <sup>2</sup>	NOW: £16.12/
d) $3^{-2}$	
You buy a new car for £2,500.	What is the maximum and
Your car depreciates in value by $10\%$ in the first year and 5%	minimum areas of this
each year after How much is it	rectangle?
worth after 4 years?	
	12
	C C
	75 mm
Write the following as	Simplify the following
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Mr Tait does a survey on how much people spend on school dinners in a week. How much do you spend on your lunch? $\pounds_{1-\pounds 5}$ $\pounds_{5-\pounds 10}$ $\pounds_{10-\pounds 15}$ List two things negatives about this question.		There are 7 counters in a bag, 5 blue and 2 green. If select a counter and then pass it to my friend to hold while I select a second counter. What is the probability of me selecting two of the same coloured counters?
Calculate the me         Height (cm) $0 < h \le 10$ $10 < h \le 20$ $20 < h \le 40$ $40 < h \le 50$	an from the table Frequency 9 7 8 6	A A A A A A A A A A A A A A A A A A A
How many peop 20 minutes?	le are faster than	Draw a histogram Height (cm) Frequency $0 < h \le 10$ 12 $10 < h \le 30$ 14 $30 < h \le 50$ 8 $50 < h \le 60$ 6 How many objects were taller than 40cm? A coin and a dice are thrown at the same time. Calculate
<sup>30</sup> 0 5 10 Time,	15 20 25 30 (minutes)	the probability I get a head and an even number.



## Edexcel Higher