

$(1-2x)^5$ . Give each term in its simplest form.	(4)
(b) If $x$ is small, so that $x^2$ and higher powers can be ignored, sh	ow that
$(1+x)(1-2x)^5 \approx 1-9x$ .	
(1 - w)(1 - 2w) + 1 - 5w.	(2)

2 (a) Find the first 4 terms in second in a second of the first in the second of the first in the second of the first in the second of the sec	. (1
2. (a) Find the first 4 terms, in ascending powers of x, of the binomial expansion of where a is a constant. Give each term in its simplest form.	$(1+ax)^{2}$ ,
	(4)
Given that the coefficient of $x^2$ in this expansion is 525,	
Given that the coefficient of $x$ in this expansion is 323,	
(b) find the possible values of <i>a</i> .	(2)
	(2)

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in ascending powers of $x$ , giving (4)	each term in its simplest form.	( )
5) <sup>10</sup> , giving your answer to 5 decimal	Use your expansion to estimate to places.	(b)
(3)		

6

giving each term in its simpl	lest form.	(4)

Find the first 3 terms, in ascending powers of $x$ , of the bin	noimai expansion oi
$(3-x)^6$	
and simplify each term.	
	(4)

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- 6. Given that  $\binom{40}{4} = \frac{40!}{4!b!}$ ,
  - (a) write down the value of b.

**(1)** 

In the binomial expansion of  $(1+x)^{40}$ , the coefficients of  $x^4$  and  $x^5$  are p and q respectively.

(b) Find the value of  $\frac{q}{p}$ .

**(3)** 

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8.	<ul> <li>(a) Find the first four terms, in ascending powers of x, in the binomial expansion of (1+kx)<sup>6</sup>, where k is a non-zero constant.</li> </ul>	Leav blan
	Given that, in this expansion, the coefficients of $x$ and $x^2$ are equal, find	
	(b) the value of $k$ ,	
	(2)	
	(c) the coefficient of $x^3$ . (1)	

9. (a) Find the first 4 terms, in ascending powers of $x$ , of the binomial ex $(1 + ax)^{10}$ , where $a$ is a non-zero constant. Give each term in its simplest form	pansion of form. (4)
Given that, in this expansion, the coefficient of $x^3$ is double the coefficient of $x^3$	$x^2$ ,
(b) find the value of <i>a</i> .	
	(2)

(a) Find the first 3 terms, in ascending powers of $x$ , of the binomial expansion of	?
$(2+kx)^7$	
where $k$ is a constant. Give each term in its simplest form.	(4)
	(+)
Given that the coefficient of $x^2$ is 6 times the coefficient of $x$ ,	
(b) find the value of $k$ .	
	(2)