

Level 3 Test – Skills

Name

Number Facts Section 2 minutes Non-calculator

10 points minus 1 point per incorrect or missing answer. Minimum 0.

Score: /10

	Question	Answer	Tick
Q1	$2 + 5$		
Q2	$8 + 6$		
Q3	6×3		
Q4	$12 - 8$		
Q5	$9 + 8$		
Q6	$36 \div 4$		
Q7	8×9		
Q8	$15 - 7$		
Q9	$4 + 5$		
Q10	7×3		
Q11	8×6		
Q12	$24 \div 6$		
Q13	$7 + 7$		
Q14	$40 \div 8$		
Q15	$16 - 9$		

	Question	Answer	Tick
Q16	7×8		
Q17	$10 - 4$		
Q18	$6 + 6$		
Q19	$54 \div 6$		
Q20	$32 \div 4$		
Q21	5×9		
Q22	$6 + 7$		
Q23	$11 - 4$		
Q24	9×9		
Q25	$42 \div 7$		
Q26	9×4		
Q27	$56 \div 8$		
Q28	$5 + 9$		
Q29	$15 - 9$		
Q30	8×2		

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Mental Arithmetic Section 10 minutes Non-calculator

Each question is worth 1 mark. Only answers required. Scribbling paper allowed.

Score: /15

	Question	Answer	Tick
Q1	$344 + 421$		
Q2	$550 - 177$		
Q3	500×420		
Q4	$966 \div 3000$		
Q5	67.5×4		
Q6	$1\frac{3}{10} \times 850$		
Q7	$12 \div \frac{2}{5}$		
Q8	0.25×0.05		
Q9	$0.005 \div -0.2$		
Q10	$2.4 - -4.9$		
Q11	50×-60		
Q12	$2\frac{1}{4} \times \frac{5}{3}$		
Q13	$25 \div \frac{5}{7}$		
Q14	$1 + 12 \times (1 - 3^2)$		
Q15	$12 - 2 + 5 \div (2 + 8)$		

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Problem Solving Section 45 minutes Calculators allowed

Work on the paper provided. Show your working and explain your thinking. You will get credit for solving the problems and for your communication. Part solutions will get part of the marks.

Problem Solving Score: /25

Communication Score: /10

Q1	What is the maximum area that can be enclosed by 26 straight fence sections, each 3 m long, if all corners are right angles?	/5
Q2	Eddie can weed a garden bed in $2\frac{1}{2}$ hours. Amanda would take $1\frac{1}{2}$ hours to do the same job. How long would it take if they worked together, assuming they didn't get in each other's way, argue or fight.	/10
Q3	<p>An abc-5 string is a string of 5 letters, each of which is an 'a', a 'b' or a 'c'. Examples are acaab, bccac, ccccc.</p> <p>A palindromic abc-5 string is an abc-5 string which reads the same forwards and backwards. Examples are cabac, aacaa, bbbbb.</p> <p>How many abc-5 strings are there?</p> <p>An abc-16 string is the same idea with 16 letters, e.g. abacbbcabbabccab.</p> <p>How many palindromic abc-16 strings are there?</p>	/10

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Investigating Section

1 week

Calculators allowed

Work on the paper provided. Show your working and explain your thinking. You will get credit for what you find and for your communication.

Investigating Score: /25

Communication Score: /15

Pick two random digits, a and b , each from 1 to 9 inclusive.

Find the value of $x = \frac{a}{b}$.

What are the possible and likely values for x ?

Display the likelihoods in a graph.

Try to do the same for four random digits, a , b , c , d , each from 1 to 9,

and $z = \frac{a}{b} - \frac{c}{d}$.