



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

ANNUAL NATIONAL ASSESSMENT

GRADE 5

MATHEMATICS

SET 1: 2012 EXEMPLAR

MEMORANDUM



QUESTION	EXPECTED ANSWERS	MARK	DIFFICULTY LEVEL						
1. Recognise and represent whole numbers to at least 6 digits									
1.1	4 201	1	E E M E E						
1.2	705 ; 707 Rule: Add 2.	2							
1.3	477 ; 480 ; 483.	1							
1.4	720 ; 725 ; 730.	1							
1.5	5 820	1	M M M E M E						
1.6	A 21 750 B 22 250	2							
2.1	42 765	1							
2.2	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>662 922</td> <td>623 902</td> <td>632 209</td> </tr> <tr> <td>692 023</td> <td>623 209</td> <td>623 920</td> </tr> </table>	662 922		623 902	632 209	692 023	623 209	623 920	1
662 922	623 902	632 209							
692 023	623 209	623 920							
2.3	a. Forty two thousand seven hundred and forty- nine b. Three hundred and forty eight thousand seven hundred and six	2							
2.4	348 736	1							
2.5	35 698 , 36 589 , 38 569 , 39 958	1							
2.6	Biggest number – 976 521 Smallest number – 125 679	2							
2.									
3.1	a. $23 + 0 = 23$ c. $25\ 625 - 25625 = 0$ 298	b. $23 - 0 = 23$ d. $1\ 298 - 0 = 1$	4	E M E M					
3.2	a. The number stays the same b. The answer will be 0/zero c. The number stays the same.		3						
3.3	a. $1 \times 1 \times 1 = 1$	b. $3 \times 0 \times 3 = 0$	2						
3.4	a. The number stays the same. b. The product = 0.		2						
4.									
4.1	Yes	1	E E						
4.2	51	1							
4.3	$2(5+3) = (2 \times 5) + (2 \times 3)$	3	M						

	$= 10 + 6$ $= 16$		
4.4	No	1	M
5.			
5.1	1 and 7	2	E
5.2	72 and 54	2	M

5.3		3	E
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6. Odd and even numbers

6.1	5337	1	E
6.2	2 844	1	E
6.3	65 321	1	M
6.4	1 476	1	M

7. Place value

7.1	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td></td><td>X</td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td></tr> <tr><td>X</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>X</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>X</td><td>X</td><td></td><td>X</td><td></td></tr> <tr><td>X</td><td>X</td><td>X</td><td>X</td><td></td></tr> <tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>TTh</td><td>Th</td><td>H</td><td>T</td><td>U</td></tr> </table>		X					X				X	X				X	X				X	X		X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	TTh	Th	H	T	U	1	M
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7.2	26 345	1	E																																													
7.3	3 000	1	E																																													
7.4	400/4H/4 Hundreds	1	E																																													
7.5	$3\ 000 + 700 + 40 + 2$ OR $(3 \times 1\ 000) + (7 \times 100) + (4 \times 10) + (2 \times 1)$ OR $3\text{Th} + 7\text{H} + 4\text{T} + 2\text{U}$	1	M																																													

8. Common fractions and decimal fractions

8.1	a. Fruity b. Pop c. 4	3	E
8.2	a. i $\frac{1}{4} < \frac{3}{4}$	1	E
	ii $\frac{4}{8} = \frac{2}{4}$	1	
	b $\frac{1}{4}, \frac{1}{8}$	2	
	c. $\frac{7}{8}$	1	
	d. $\frac{1}{2}, \frac{4}{8}$	2	

8.3	$\frac{3}{11}$	1	E
8.4	$\frac{11}{12}$	1	E

9. Rounding off

9.1	a. 125 b. 130	2	M
9.2	a. 70 b. 3 000	2	M
9.3	a. R 54,00 b. R 6 348,00	2	M


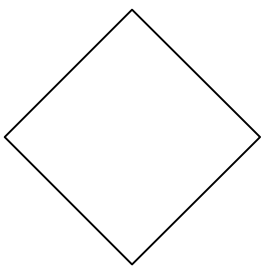
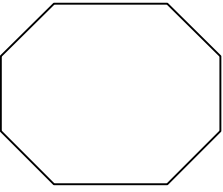
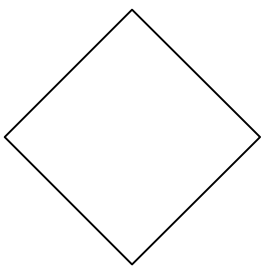
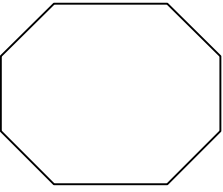
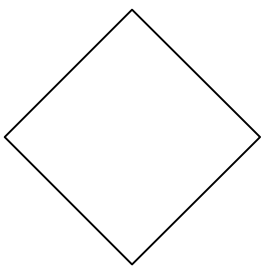
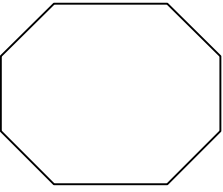
10. Add and subtract whole numbers

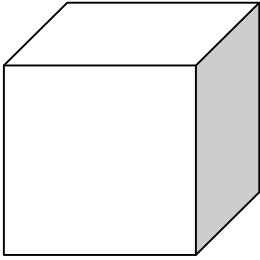
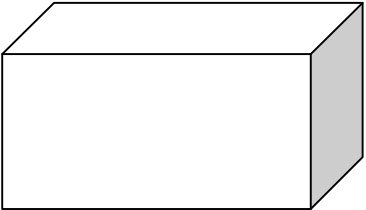
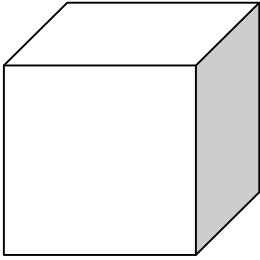
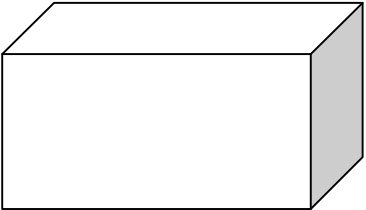
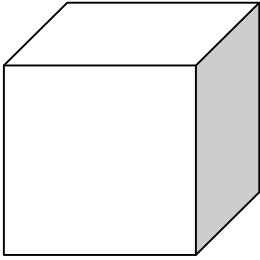
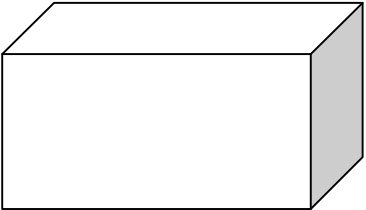
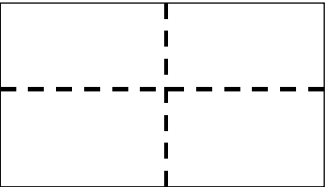
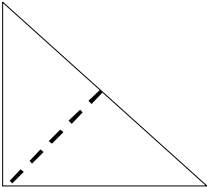
10.1	Missing number $6\ 892 - 3\ 576 = 3\ 316$	2	M
10.2	$\begin{array}{r} 1\ 673 \\ +\ 374 \\ \hline 2\ 047 \end{array}$ <p>or</p> $\begin{aligned} &1\ 000 + 600 + 300 + 70 + 70 + 3 + 4 \\ = &1\ 000 + 900 + 140 + 7 \\ = &2\ 047 \end{aligned}$	2	M
10.3	$\begin{array}{r} 2\ 624 \\ +\ 2\ 304 \\ \hline 4\ 928 \end{array}$ <p>or</p> $\begin{aligned} &2\ 000 + 2\ 000 + 600 + 300 + 20 + 4 + 4 \\ = &4\ 000 + 900 + 20 + 8 \\ = &4\ 929 \end{aligned}$	2	E
10.4	$\begin{array}{r} 2\ 364 \\ -1\ 403 \\ \hline 961 \end{array}$ <p>Number of flowers = 961</p> <p>or</p> $\begin{aligned} \text{Number of flowers} &= 2\ 364 - 1\ 403 \\ &= 1\ 000 + 1\ 300 + 60 + 4 - 1\ 000 - 400 - 3 \\ &= 1\ 000 - 1\ 000 + 1\ 300 + 60 + 4 - 3 \\ &= 900 + 60 + 1 \\ &= 961 \end{aligned}$	3	D

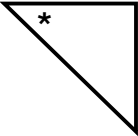
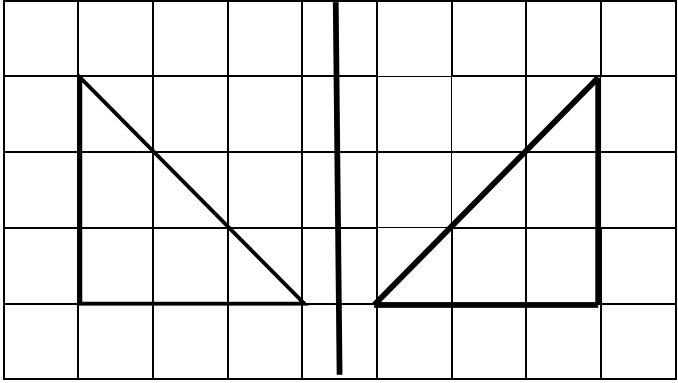
10.5	<p>a.</p> $\begin{array}{r} 213 \\ 643 \\ + 812 \\ \hline 2668 \end{array}$ <p>Number of beads = $1\,213 + 643 + 812$ = $2\,668$</p> <p>or</p> <p>Number of beads = $1\,000 + 200 + 600 + 800 + 10 + 40 + 10 + 3 + 3 + 2$ = $1\,000 + 1\,600 + 60 + 8$ = $2\,668$</p> <p>b.</p> $\begin{array}{r} 2\,068 \\ - 812 \\ \hline 1\,256 \end{array}$ <p>Number of flowers = $2\,068 - 812$ = $1\,256$</p> <p>or</p> <p>Number of beads = $2\,068 - 812$ = $2\,000 + 60 + 8 - 800 - 10 - 2$ = $1\,200 + 50 + 6$ = $1\,256$</p>	3	D
11. Common fractions			
11.1 a.	$\frac{6}{6}$ or 1(whole)	1	E
b.	$\frac{5}{11}$	1	E
c.	$8 + \frac{5}{5}$ = $8 + 1$ = 9	2	D
d.	$9\frac{3}{12} - 1\frac{4}{12}$ = $\frac{111}{12} - \frac{16}{12}$ = $\frac{95}{12}$ = $7\frac{11}{12}$	2	M
e.	$\frac{1}{6} \times 24$ = 4	2	M
f.	$\frac{2}{5} \times R30$ = $R \frac{2 \times 30}{5}$ = $2 \times R6$ = $R12$	3	D

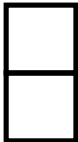
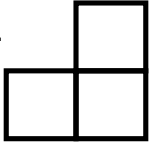

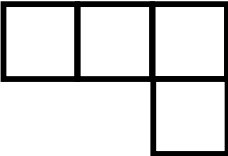
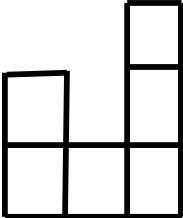
13. Division			
13.1	$728 \div 28$ $= 728 \div 7 \div 4$ $= 104 \div 4$ $= 26$	3	D
13.2	$\begin{array}{r} 17 \\ 17 \overline{)289} \\ \underline{119} \\ 119 \\ \underline{119} \\ 0 \end{array}$	3	M
13.3	$\begin{array}{r} 35 \\ 21 \overline{)735} \\ \underline{63} \\ 105 \\ \underline{105} \\ 0 \end{array}$ <p>Quotient = 35</p>	3	M
13.4	$\begin{array}{r} 23 \\ 35 \overline{)805} \\ \underline{70} \\ 105 \\ \underline{105} \\ 0 \end{array}$ <p>or</p> $805 \div 35$ $= 805 \div 7 \div 5$ $= 115 \div 5$ $= 23$	3	
14. Properties of numbers			
14.1	a. False b. True c. True d. False e. True	5	M
14.2	Complete: a. $9 + 2 = 2 + 9$ b. $7 + 1 = 1 + 7$ c. $6 \times 4 = 4 \times 6$ d. $8 \times 5 = 5 \times 8$	4	E
14.3	a. $2 \times (3 \times 4) = (2 \times 3) \times 4$ b. $1 + (3 + 5) = (1 + 3) + 5$ c. $6 \times (2 + 4) = (6 \times 2) + (6 \times 4)$	3	M

15. Ratio and Rate			
15.1	Open-ended answer	1	E
15.2	2:4 or $\frac{2}{4}$ 1:2 or $\frac{1}{2}$	1	M
15.3	Price of 8 litres = $8 \times R 12,50$ = $8 \times R12 + 8 \times 50c$ = $R96 + R4$ = $R 100$	3	M
15.4	Price per kg = $R40 \div 8$ = $R5$	2	M
15.5	Number of groups = $200 \div 5$ = 40	1	E
15.6	Number of apples each = $300 \div 20$ = 15	2	M
15.7	Income : $R 10\ 200$ $R 7\ 500$ <u>+ $R 2\ 150$</u> <u>$R 19\ 800$</u> Total expenses: Clothing : $R 1\ 847$ Transport : $R 1\ 280$ Food : + <u>$R 2\ 624$</u> <u>$R 5\ 751$</u> $R 19\ 800$ Amount left = Income – Expenses <u>- $R 5\ 751$</u> = $R 14\ 049$ <u>$R 14\ 049$</u>	2 2 2	M M M
16. Geometric and numeric patterns			
16.1	a. 25; 50; 75; 100; 125 b. 1994; 1998; 2002; 2006; 2010 c. 99; 94; 89; 84; 79	3	E
16.2	Add 5 or +5 Subtract 7 or -7	2	M
16.3	$y = 2x + 1$ $y = x + 4$	2	D

16.4	Complete the pattern: 	1	M												
16.5	Open ended question. Accept any 2 correct patterns	2	E												
17. Flow diagram and number sentences															
17.1	a. 45 , 60 , 75 b. 0 , 3 , 6 , 9 , 12	8	M												
17.2	a. Number of learners = $5 + 23$ or $x = 5 + 23$ b. Number of sweets each = $(36 - 4) \div 2$ or $x = (36 - 4) \div 2$ c. Number of lipsticks = 20×5 or $x = 20 \times 5$ d. Fourth number = $20\,500 - (2\,341 + 578 + 10\,690)$	1 1 1 1	M												
17.3	Cost = $R\,160 \times 2 \times 29$ = $R\,320 \times 29$ = $R\,9\,280$ $\begin{array}{r} 320 \\ \times 29 \\ \hline 2\,880 \\ 6\,400 \\ \hline 9\,280 \end{array}$	4	D												
17.4	$\div 6$	1	M												
18. 2-D shapes, 3-D objects, symmetry and transformations															
18.1	<table border="1"> <thead> <tr> <th>Shape</th> <th>Name of shape</th> <th>Number of sides</th> <th>Number of angles</th> </tr> </thead> <tbody> <tr> <td></td> <td>Square</td> <td>4</td> <td>4</td> </tr> <tr> <td></td> <td>Octagon</td> <td>8</td> <td>8</td> </tr> </tbody> </table>	Shape	Name of shape	Number of sides	Number of angles		Square	4	4		Octagon	8	8	6	M
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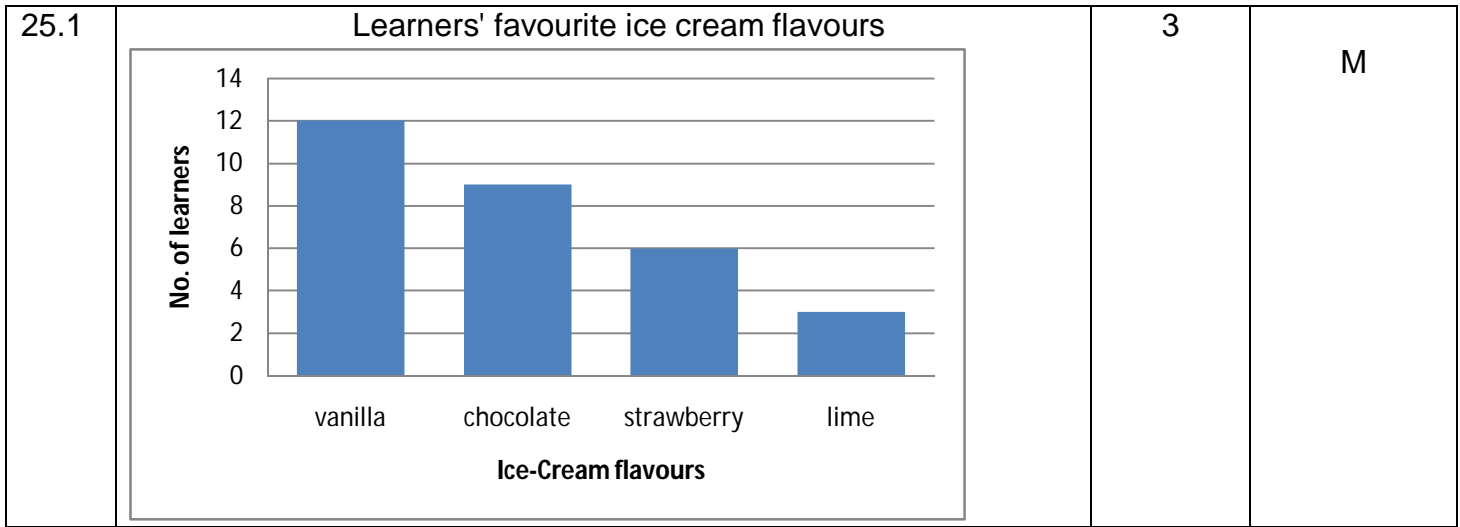
18.2	a. 8 b. 2		2	M									
18.3	9		1	M									
18.4	Pentagons and hexagons		2	M									
18.5	<table border="1"> <thead> <tr> <th>3 D object</th> <th>Name of 3 D object</th> <th>The name(s) of the shape(s) of the faces</th> </tr> </thead> <tbody> <tr> <td></td> <td>Cube</td> <td>Squares</td> </tr> <tr> <td></td> <td>Rectangular prism</td> <td>Rectangles</td> </tr> </tbody> </table>		3 D object	Name of 3 D object	The name(s) of the shape(s) of the faces		Cube	Squares		Rectangular prism	Rectangles	4	M
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19.2	6		1	M									
19.3			1	E									

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1	.		.																																									
2				.																																								
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4	.																																											
21.2	<p>a. C5: rectangular prism E2: cube</p> <p>b. Triangle: C1/1C Rectangle: D3/3D</p>		4	E																																								

21.3	<p>a. </p> <p>b. </p> <p>c. </p>	3	M																				
21.4		1	M																				
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22. Measurement																							
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22.2	<p>a. 6.00 a.m. or 6 o'clock a.m.</p> <p>b. 9.30 p.m.</p> <p>c. 11.15 p.m.</p>	3	M																				
22.3	<p>a. 17:15</p> <p>b. 19:45</p> <p>c. 02:30</p>	3	M																				
22.4	7.10 p.m.	1	M																				
22.5	<p>4 weeks 2d</p> <p><u>+9 weeks 3d</u></p> <p>13 weeks 5d</p>	<p>13h 44min</p> <p><u>9h 35 min</u></p> <p>4 h 9 min</p>	2	M																			

23.																							
23.1	<table border="1"> <tr> <td>Item</td> <td colspan="3">(m, cm, kg, mℓ ; km, mm, ℓ)</td> </tr> <tr> <td>Distance from Cape Town to East London</td> <td colspan="3">km</td> </tr> <tr> <td>Finger nail</td> <td colspan="3">mm</td> </tr> <tr> <td>Bag of cement</td> <td colspan="3">kg</td> </tr> <tr> <td>Cup of tea</td> <td colspan="3">mℓ</td> </tr> </table>	Item	(m, cm, kg, mℓ ; km, mm, ℓ)			Distance from Cape Town to East London	km			Finger nail	mm			Bag of cement	kg			Cup of tea	mℓ			4	M
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23.2	<p>4 002 98 <u>1 703</u> <u>5 803</u></p> <p>Total number of litres = 4 002 + 98 + 1 703 = 5 803</p>	4	D																				
23.3	<table border="1"> <tr> <td>0,5 kg</td> <td>250 g</td> <td>200 g</td> </tr> <tr> <td>0,25 kg</td> <td>600 g</td> <td>400 g</td> </tr> </table>	0,5 kg	250 g	200 g	0,25 kg	600 g	400 g	2	M														
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23.4	200cm	1	E																				
23.5	2°C	1	E																				
24.																							
24.1	<p>a. AB = 9cm BC = 4cm</p> <p>b. Area of the rectangle ABCD = 9cm x 4 cm = 36 cm²</p>	2	M																				
24.2	<p>Volume = l x b x h = 6cm x 6cm x 6cm = 216 cm³</p>	3	M																				
24.3	<p>Volume = l x b x h = 6cm x 5cm x 7cm = 210cm³</p>	3	M																				

25. Data handling



25.2

Environmental issue	Tally marks	Frequency
Waste management		17
Vegetable garden		10
Planting of tree		12
Water conservation		11

4

E

25.3

Teams	Tally marks	Frequency
South Africa		12
Ghana		9
Brazil		11
Spain		4
Argentina		5

a. South Africa
b. 41:150

6

M

26. **Probability**

26.1

Impossible	Certain
	a
b	
c	
	d

4

M

26.2	a. Possible b. Certain c. Impossible	1	E
26.3	$\frac{1}{6}$ or 1 out of 6	1	M