NAME _____ **INDEX NUMBER** _____

SCHOOL _____ **DATE** _____

INTEGERS

KCSE 1989 – 2012 Form 1 Mathematics *Answer all the questions*		Working space
1.	**1999 Q1a P1** Evaluate $\frac{-8\div2+12\times9-4\times6}{56\div7\times2}$	
2.	**2000 Q1 P1** Evaluate $\frac{28-(-18)}{-2} - \frac{15-(-2)(-6)}{3}$	

		Working space
3.	**2002 Q1 P1** Evaluate: $\frac{-12\div(-3)\times4-(-20)}{-6\times6\div3+(-6)}$ (3 marks)	
4.	**2006 Q2 P1** All prime numbers less than ten are arranged in descending order to form a number. (a) Write down the number formed (1 mark) (b) State the total value of the second digit in the number formed in (a) above (1 mark)	
5.	**2008 Q1 P1** Without using a calculator, evaluate $\frac{-8+(-5)\times(-8)-(-6)}{-3+(-8)\div2\times4}$ (2 marks)	

		Working space
6.	**2009 Q1 P1** A watch which loses a half minutes every hour was set to reach the correct time at 05 45h on Monday. Determine the time in the 12 hour system, the watch will show on the watch will show on the following Friday at 1945h. (3 marks)	
7.	**2010 Q1 P1** Without using a calculator evaluate, (3 marks) $\frac{-2(5+3)-9\div3+5}{-3\times-5+-2\times4}$	
8.	**2010 Q11 P1** A fruit vendor bought 1948 oranges on a Thursday and sold 750 of them on the same day. On Friday, he sold 240 more oranges than on Thursday. On Saturday he bought 560 more oranges. Later that day, he sold all the oranges he had at a price of Ksh 8 each. Calculate the amount of money the vendor obtained from the sales of Saturday. (4 marks)	

		Working space
9.	**2011 Q4 P1** A square room is covered by a number of whole rectangular slabs of sides 60cm by 42 cm. Calculate the least possible area of the room in square metres. (3 marks)	
10.	**2011 Q14 P1** (a) Express 10500 in term of its prime factors (1 mark) (b) Determine the smallest positive number P such that 10500p is a perfect cube. (2 marks)	
11.	**2012 Q6 P1** Three bells rang at intervals of 9minutes, 15 minutes and 21minutes. The bells will ring together at 11.00p.m.Find the time the bells had last rang together (3 marks)	

INTEGERS MARKING SCHEME

NO	SOLUTION	MARKS
1.	a) $\frac{-8 \div 2 + 12 \times 9 - 4 \times 6}{56 \div 7 \times 2}$ $= \frac{-4 + 108 - 24}{16}$ $= \frac{80}{16}$ $= 5$ **1999Q1**	M1 M1 M1 2
2.	$\frac{28+18}{-2} - \frac{15 - 12}{3}$ $= -23 - 1$ $= -24$ **2000Q1**	M1 M1 A1 3 marks
3.	$\frac{+4 \times 4 - (-20)}{-6 \times 6 + (-6)}$ 3 $= \frac{4 \times 4 + 20}{-6 \times 2 - 6}$ $= \frac{36}{-18}$ **2002Q1**	B1B1 A1 3 marks
4.	a)7532 b).500 **2006Q2**	B1 B1 3M
5.	$\frac{+(5) \times (-8) - (-6)}{-3+(-8)\div 2 \times 4}$ $= \frac{-8+40+6}{-3 + -4x4}$ $= \frac{38}{-19}$ $= -2$	2 marks
6.	The LCM of 3 and 5 is 15 minutes In 15 minutes 8 customers are served ; Total time = $\frac{200 \times 15}{8}$ = 375 minutes **2009Q7**	B1 M1 A1 3 marks
7.	$\frac{-2(5 + 3) - 9 \div 3 + 5}{-3 \times -5 + (-2) \times 4} = -\frac{14}{7}$ $= -2$ **2010Q1**	B1 B1 B1 3
8.	No of oranges for Friday 1948 – (750 + 750 + 240) = 208 No of oranges for Saturday 208 +560 = 768 Amount = sh.8 x 768 = sh.6144 **2010Q11**	
9	60 = 22 x 3 x 5 42 = 2 x 3 x 7 Side of the pavement LCM =22 x 3 x 5 x7 Least area = 4.2 x 4.2m = 17.64m^2 **2011Q4**	M1 A1 B1 3
10.	a) 10,500=2^2 x 3 x 5^3 x 7 b) p x 10,500 = 2^2 x 3^3 x 5^3 x 7^3 smallest value of p = 2 x 3^3 x 7^2 p = 882cm **2011Q14**	B1 M1 A1 3
11.	LCM of 9, 15 and 21 32 x 5 x 7 = 315 minutes Last time ringing together 11.00 2300 5.15 515 5.45 p.m 1745hrs **2012 Q6**	B1 M1 A1 3