MASTER MATHS GCSE

GCSE Mathematics 9-1

Negative Numbers

(Non-Calculator)

Mark Scheme

Total available marks: 45

Q	Answer	Working	Mark
1	4	Start at −3 and count up 7 on a number line	1
2	−4	Start at 5 and count down 9: past 0 to −4	1
3	−10	Start at −6 and count down 4 more	1
4	−7	Adding a negative is the same as subtracting $-2-5=-7$	1
5	11	Subtracting a negative is the same as adding $8+3=11$	1
6	−5	Subtracting a negative is the same as adding $-7+2=-5$	1
7	−24	$4\times6=24$ Positive × negative = negative	1
8	15	$5\times3=15$ Negative × negative = positive	1
9	−4	$24\div6=4$ Negative ÷ positive = negative	1
10	4	$36\div9=4$ Negative ÷ negative = positive	1
11	−9	$45\div5=9$ Positive ÷ negative = negative	1
12	−12	Adding negatives is the same as subtracting $-3-4-5=-12$	1
13	−9	$-6--2=-6+2=-4$ $-4-5=-9$	1
14	−15	$-8+-3=-11$ $-11-4=-15$	1
15	3	$7--2=7+2=9$ $9+-6=9-6=3$	1
16	3	$-5--9=-5+9=4$ $4+-1=4-1=3$	1
17	24	$-2\times3=-6$ $-6\times-4=24$	1

Q	Answer	Working	Mark
18	-30	$-2 \times -3 = 6$ $6 \times -5 = -30$ (three negatives multiplied give a negative)	1
19	-15	Work from left to right $-40 \div -8 = 5$ $5 \times -3 = -15$	2
20	4	Divide first: $-12 \div 4 = -3$ $-3 - -7 = -3 + 7 = 4$	2
21	-2	$1 - 3 = -2$ Check: $-2 + 3 = 1$	1
22	-4	$6 - -4 = 6 + 4 = 10$	1
23	-7	$28 \div -4 = -7$ Check: $-7 \times -4 = 28$	1
24	-5	$-35 \div 7 = -5$ Check: $-35 \div -5 = 7$	1
25	-6	$-9 - -6 = -9 + 6 = -3$	1
26	-7	$-15 + 8 = -7$ Check: $-7 - 8 = -15$	1
27	5 °C	$-4 + 9 = 5$	1
28	-5 °C	$3 - 8 = -5$	1
29(a)	Moscow	-12 is the lowest temperature	1
29(b)	33 degrees	$21 - -12 = 21 + 12 = 33$	1
29(c)	5 degrees	$-2 - -7 = -2 + 7 = 5$	1
30	22 degrees	$4 - -18 = 4 + 18 = 22$	1
31	£35	$45 - 70 = -25$ ($-$£25 after the bill) $-25 + 60 = 35$	2
32	$-$£35	$-120 + 85 = -35$	1
33	1	$-2 + 7 = 5$ $5 - 4 = 1$	2

Q	Answer	Working	Mark
34	-20 m	$-15 + 6 = -9$ $-9 - 11 = -20$	2
35	2	Correct: $6 \times 3 = 18$ Wrong: $8 \times -2 = -16$ $18 + -16 = 2$	2
36	-10 °C	8 pm to 1 am = 5 hours $5 \times 3 = 15$ degrees colder $5 - 15 = -10$	2

Total available marks for this paper	**45**