Test - Negative numbers, factors, multiples and primes

Year: Year 7 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Negative numbers

Work out each answer.

a. $-7 + 12$ (1 mark)
b. $-5 - (-9)$ (1 mark)
c. -6×7 (1 mark)
d. $-56 \div (-8)$ (1 mark)

Question 2 (4 marks)

Question 2 – Factors and multiples

(a) Write down all the factors of 30. (2 marks)
(b) Find the HCF of 30 and 45. (1 mark)
(c) Find the LCM of 6 and 8. (1 mark)

Question 3 (4 marks)

Question 3 – Prime numbers

(a) Write 72 as a product of prime factors, in index form. (2 marks)
(b) List the prime numbers between 20 and 40. (1 mark)
(c) Explain why 57 is not a prime number. (1 mark)

Question 4 (4 marks)

Question 4 – Problem: the winter weather

The table shows the lowest temperature recorded in five towns on one night in January.

Town	Lowest temperature (°C)
Aberdeen	-4
Leeds	-1
Cardiff	2
Inverness	-9
Belfast	0

a. Which town was the coldest? (1 mark)
b. What is the difference between the coldest and the warmest town? (1 mark)
c. The next night the temperature in Leeds falls by 6 degrees. What is the new temperature? (1 mark)
d. The temperature in Aberdeen rises by 7 degrees by noon. Is it above or below freezing point? (1 mark)

Question 5 (4 marks)

Question 5 – Problem: the sports day relay

On sports day, red team runners finish a lap every 12 seconds and blue team runners finish a lap every 18 seconds. They cross the starting line together at the start of the race.

a. Find the LCM of 12 and 18. (2 marks)
b. After how many seconds do they next cross the line together? How many laps has each team run by then? (2 marks)