

Number Properties: Medium Practice Paper 4 Answers

Q#	Answer	Explanation
1	C	The factors of 27 are 1, 3, 9, 27 and the factors of 45 are 1, 3, 5, 9, 15, 45. The largest number in both lists is 9.
2	C	Multiples of 8: 8, 16, 24. Multiples of 12: 12, 24. The smallest number in both lists is 24.
3	C	The factors of 100 are 1, 2, 4, 5, 10, 20, 25, 50 and 100. That is 9 factors, an odd number because 100 is a square number.
4	B	113 cannot be divided by 2, 3, 5, 7 or 11, so it is prime. The others can: $111 = 3 \times 37$, $115 = 5 \times 23$, $117 = 9 \times 13$ and $119 = 7 \times 17$.
5	D	Squaring means multiplying a number by itself: $14 \times 14 = 196$.
6	B	The square root asks which number multiplied by itself gives 225. Since $15 \times 15 = 225$, the square root is 15.
7	B	The multiples of 11 include 110, 121, 132, ... Since $11 \times 11 = 121$, it divides exactly. The others leave a remainder.
8	D	This is the lowest common multiple of 9 and 12. Multiples of 9: 9, 18, 27, 36. Multiples of 12: 12, 24, 36. They drip together after 36 seconds.
9	D	The number of necklaces must divide both 72 and 54, so it is their highest common factor. That is 18, giving 4 red and 3 blue beads on each.
10	A	On a number line, the further left a number is, the smaller it is. -15 is furthest below zero, so -15°C is the lowest temperature.
11	B	$5 \times 5 \times 5 = 125$, so 125 is a cube number. 100 is a square number but not a cube number.
12	D	47 has only the factors 1 and 47. The others are even (42, 44, 48) or divide by 5 (45).
13	C	A multiple of both 3 and 4 must be a multiple of 12: 12, 24, 36, ... Only 24 lies between 20 and 30.

14	C	The first four square numbers are 1, 4, 9 and 16. Adding them: $1 + 4 + 9 + 16 = 30$.
15	C	The group size must be a factor of 24: 1, 2, 3, 4, 6, 8, 12, 24. Leaving out 1 and 24 gives 2, 3, 4, 6, 8 and 12, which is 6 possible sizes.

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