

Number Properties: Medium Practice Paper 2 Answers

Q#	Answer	Explanation
1	C	The factors of 20 are 1, 2, 4, 5, 10, 20 and the factors of 30 are 1, 2, 3, 5, 6, 10, 15, 30. The largest number in both lists is 10.
2	C	Multiples of 5: 5, 10, 15, 20, 25, 30, 35, 40. Multiples of 8: 8, 16, 24, 32, 40. The smallest number in both lists is 40.
3	D	The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36. That is 9 factors. Square numbers always have an odd number of factors.
4	C	83 has only the factors 1 and 83. The others can be broken down: $77 = 7 \times 11$, $81 = 9 \times 9$, $87 = 3 \times 29$ and $91 = 7 \times 13$.
5	D	Squaring means multiplying a number by itself: $15 \times 15 = 225$.
6	B	The square root asks which number multiplied by itself gives 144. Since $12 \times 12 = 144$, the square root is 12.
7	A	A number divides by 9 if its digits add to a multiple of 9. For 234: $2 + 3 + 4 = 9$, and $234 \div 9 = 26$.
8	C	This is the lowest common multiple of 12 and 18. Multiples of 12: 12, 24, 36. Multiples of 18: 18, 36. After 36 minutes it is 9:36.
9	D	The number of baskets must divide both 60 and 45, so it is their highest common factor. That is 15, giving 4 apples and 3 oranges in each basket.
10	B	Work from left to right: $-12 + 5 = -7$, then $-7 - 3 = -10$.
11	D	$64 = 8 \times 8$, so it is a square number, and $64 = 4 \times 4 \times 4$, so it is also a cube number. 27 is only a cube; 16, 36 and 81 are only squares.
12	B	The first three primes are 2, 3 and 5. Multiplying them: $2 \times 3 \times 5 = 30$.
13	B	The multiples of 11 are 11, 22, 33, 44, ... Only 33 lies between 30 and 40, and it is odd.

14	C	The number must be a multiple of all three. The lowest common multiple of 2, 3 and 5 is $2 \times 3 \times 5 = 30$.
15	D	Only square numbers have an odd number of factors, because one factor is repeated. $49 = 7 \times 7$ and its factors are 1, 7 and 49, which is three factors.

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