Number Properties: Easy Practice Paper 6 Answers

Q#	Answer	Explanation
1	D	The rows must use exactly 12 counters. 2 × 6 = 12, 3 × 4 = 12, 1 × 12 = 12 and 4 × 3 = 12, so those all work. But 5 × 2 = 10, which is not 12, because 5 is not a factor of 12.
2	C	9, 16, 25 and 36 are all square numbers: 3 × 3 = 9, 4 × 4 = 16, 5 × 5 = 25 and 6 × 6 = 36. No whole number multiplied by itself makes 30, so 30 is the odd one out.
3	A	Two odd numbers always add to make an even number. Adding a third odd number to that even number always gives an odd number. For example, 3 + 5 + 7 = 15. That example is a multiple of 3, but 1 + 3 + 7 = 11 is not, and 15 is not prime.
4	B	A factor pair of 24 is two numbers that multiply to make 24. 3 × 8 = 24, so 3 and 8 are a factor pair. The other products are 2 × 14 = 28, 4 × 8 = 32, 5 × 5 = 25 and 6 × 6 = 36.
5	E	Factors come in pairs that multiply to make 18: 1 × 18 = 18 and 2 × 9 = 18. The partner of 3 is missing, and 3 × 6 = 18, so the missing factor is 6.
6	D	They clap on 3, 6, 9, 12, ... and stamp on 4, 8, 12, ... The first number in both lists is 12. 24 is also in both lists, but it comes later.
7	C	A prime number has exactly two factors, 1 and itself. 3, 5, 7 and 11 are all prime. The other lists each contain a number that is not prime: 9 is 3 × 3, 1 has only one factor, 15 is 3 × 5, and 4, 6 and 8 are even numbers bigger than 2.
8	E	A square with 4 dots along each side has 4 × 4 = 16 dots. There are already 9 dots, so the number of extra dots is 16 − 9 = 7.
9	C	A prime number has exactly two different factors: 1 and the number itself. The number 1 has only one factor, which is 1, so it is not prime. Being odd or small is not the reason, since 3 is odd and small and is prime.

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10	B	The even numbers between 11 and 21 are 12, 14, 16, 18 and 20. That is 5 numbers.
11	A	Every whole number can be divided exactly by 1, for example 7 ÷ 1 = 7 and 20 ÷ 1 = 20. So 1 is a factor of every whole number. 2 is a factor of even numbers only, and 10 and 100 are factors only of numbers ending in zero.
12	D	25 has been put in the box for even numbers that are not multiples of 5. But 25 ends in 5, so it is odd, and 5 × 5 = 25, so it is a multiple of 5. It belongs with 15 and 45. Every other number is in the right box.
13	E	A number that is 2 more than a multiple of 5 ends in 2 or 7. 32 is 2 more than 30, and 30 is 6 × 5. 20 and 25 are multiples of 5, so they leave no remainder. 41 leaves 1 over and 54 leaves 4 over.
14	D	The next cube number is made by multiplying 3 by itself three times: 3 × 3 × 3 = 27. 9 and 16 are square numbers, and 64 is a cube number too, but it comes after 27 because 4 × 4 × 4 = 64.
15	B	3 × 5 = 15, and 3 and 5 are both prime. 1 × 15 = 15 as well, but 1 is not a prime number and neither is 15. The other pairs do not multiply to make 15.

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