1. Number

Starter Quiz ·

AQA · GCSE · Mathematics

Name: _____ Score: _____

1. Find the HCF of 48 and 60.

   _____

2. Evaluate $2^3 \times 2^4$.

   _____

3. Find the lower bound of 3.4 rounded to the nearest 0.1.

   _____

4. Find -12+35-9.

   _____

5. Find 1½-¾.

   _____

6. Three available first choices and four second choices always give twelve outcomes even if some combinations are forbidden.

   ☐ True ☐ False

7. The finite decimal 0.375 equals 375/100.

   ☐ True ☐ False

8. To convert square metres to square centimetres, multiply by 100.

   ☐ True ☐ False

9. Rounding a positive value and truncating it to the same decimal place always give the same error interval.

   ☐ True ☐ False

10. For a 2:5 division, the first share is always 2/5 of the whole.

    ☐ True ☐ False

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Answers ·

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1. **12.0**

   $48=2^4\times3$ and $60=2^2\times3\times5$. The shared smallest powers give HCF$=2^2\times3=12$.

2. **128.0**

   Same base: add indices. $2^3\times2^4=2^7=128$.

3. **3.35**

   Half the rounding unit is 0.05. Lower bound=3.4-0.05=3.35.

4. **14.0**

   -12+35=23, then 23-9=14.

5. **0.75**

   6/4-3/4=3/4=0.75.

6. **False**

   State whether order matters and whether repetition is allowed. Choosing A then B can be different from B then A for a code, but not for an unordered two-person team. A restriction can make a simple product invalid.

7. **False**

   Keep the place value: 0.06 is six hundredths, not six tenths. A fraction may exceed 1. Simplify the entire numerator and denominator by the same common factor.

8. **False**

   The area multiplier is the square of the length multiplier; the volume multiplier is its cube. An hour is 60 minutes, not 100. Converting only the numerator of a speed gives an inconsistent unit.

9. **False**

   Zeros before the first nonzero digit do not count as significant figures. Rounding and truncation give different intervals. Do not turn an approximate check into an exact answer, or round every intermediate result.

10. **False**

    A ratio 2:5 does not give the first share as 2/5 of the total. The total has 7 parts. A multiplier over 1 increases a positive quantity; it does not automatically mean a probability.