

Multiple-Choice Tasks – Sample questions

Year 7 Tasks

1. **Whole Numbers**

Place value, order of operations, applying the associative, commutative and distributive laws to aid mental and written computation, investigating index notation, using algorithms, estimating and rounding answers

2. **Integers**

Comparing, ordering, adding and subtracting integers, representing whole numbers as products of powers of prime numbers, applying divisibility rules, solving problems involving lowest common multiple and highest common factor

3. **Fractions**

Expressing one number as a fraction of another, equivalent fractions, problems involving addition, subtraction, multiplication and division of fractions, order of operations, solving problems with the unitary method

4. **Decimals, Percentage and Ratio**

Connecting fractions, decimals and percentages and carrying out simple conversions, problems involving addition, subtraction, multiplication and division of decimals, finding percentages of quantities and expressing one quantity as a percentage of another, recognizing and solving problems involving simple ratios, investigating and calculating 'best buys'

5. **Algebra**

Introducing the concept of variables as a way of representing numbers using letters, creating algebraic expressions and evaluating them by substituting a given value for each variable, extending and applying the laws and properties of arithmetic to algebraic terms and expressions

6. **Linear and Non-linear Relationships**

Finding coordinates and quadrants for given points on the Cartesian plane, writing and solving simple linear equations, investigating, interpreting and analyzing non-linear graphs

7. **Statistics and Probability**

Identifying categorical and numerical data, interpreting data displays including stem-and-leaf plots and dot plots, calculating and interpreting mean, median, mode and range for sets of data, constructing sample spaces for single-step experiments with equally likely outcomes, assigning probabilities to the outcomes of events and determining probabilities for events

8. **Measurement and Geometry**

Calculating perimeters by adding side lengths, using formulas to calculate areas of rectangles, triangles and parallelograms, calculating volumes of rectangular prisms and compound solids made from cubes, solving problems involving perimeter, area and volume, identifying corresponding, alternate and co-interior angles when two parallel straight lines are crossed by a transversal, classifying triangles according to their side and angle properties and describing quadrilaterals, solving problems using vertically opposite, complementary and supplementary angles, the angle sum of a triangle, the angle sum of a quadrilateral and the exterior angle of a triangle

9. **Transformations, Location and Shape**

Describing translations, reflections in an axis, and rotations by multiples of 90° on the Cartesian plane using coordinates, identifying line and rotational symmetries, drawing different views of prisms and solids formed from combinations of prisms

Multiple-Choice Tasks – Sample questions

Year 7: Whole Numbers

Question 13

$$30 + 12 \div 6 - 4 =$$

- A 3
- B 11
- C 21
- D 28
- E 36

Year 7: Integers

Question 12

The integer -8 is greater than the integer

- A -7
- B 7
- C -9
- D 9
- E 0

Year 7: Fractions

Question 1

A class was made up of 12 boys and 9 girls. What fraction of this class were girls?

- A $\frac{9}{12}$
- B $\frac{3}{4}$
- C $\frac{4}{7}$
- D $\frac{3}{7}$
- E $\frac{1}{7}$

Year 7: Decimals, Percentage and Ratio

Question 14

Janet has 2 pet budgerigars and 3 pet mice. The ratio of pet mice to total number of pets is

- A 2:3
- B 3:2
- C 2:5
- D 3:5
- E 5:3

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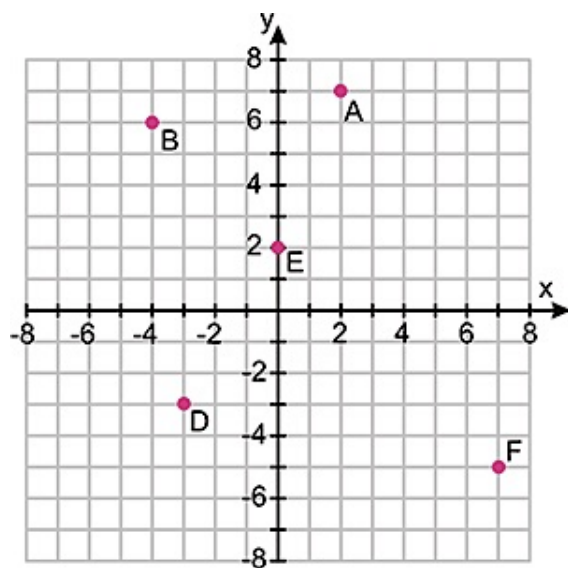
Year 7: Algebra

Question 4

A purse contains n \$1 coins and m 50-cent coins. There is no other money in the purse. The total value in cents of the money in the purse is

- A $n+m$
- B $n+\frac{1}{2}m$
- C $100n+m$
- D $100n+50m$
- E $100(n+2m)$

Year 7: Linear and Non-linear Relationships



Question 1

Point D is the ordered pair

- A $(-3,3)$
- B $(-3,-3)$
- C $(3,3)$
- D $(-3,0)$
- E $(3,-3)$

Multiple-Choice Tasks – Sample questions

Year 7: Statistics and Probability

Questions 8 and 9 refer to the distribution displayed by the stem-and-leaf plot below

3		1	2	3	3	4	4	4
3		5	6					
4		3	3	4				
4		5	9					
5		4						

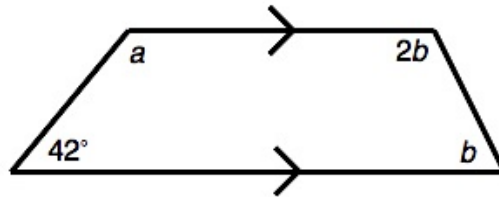
Question 9

The median is

- A 8
- B 34
- C 35
- D 36
- E 40

Year 7: Measurement and Geometry

Questions 19 and 20 relate to the following diagram, which has three unknown angles labelled a , b and $2b$.



Question 20

$b =$

- A 148°
- B 138°
- C 120°
- D 60°
- E 42°

Multiple-Choice Tasks – Sample questions

Year 7: Transformations, Location and Shape

Question 15

Reflecting $A(8,8)$ across the x -axis is equivalent to

- A** translating $A(8,8)$ 8 units down
- B** rotating $A(8,8)$ 90° anticlockwise about the origin
- C** reflecting $A(8,8)$ across the y -axis
- D** rotating $A(8,8)$ 90° clockwise about the origin
- E** translating $A(8,8)$ 16 units up

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