Mark Scheme

Year 8 · All sets · Year 8 Maths Assessment (sample paper) · Paper reference DNEP/SAMPLE-Y8 · Total 50 marks

Answers and marking points written by DNEP Education, set out like the board mark schemes (M = method, A = accuracy, B = independent mark).

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Question 1 · Forming and Solving Equations — 2 marks

(a) $8a^2$

B1 for $8a^2$

Note: Common error: 8aa not simplified or 10a.

(b) 25rs

B1 for 25rs

Note: Common error: 25 × rs or 10rs.

Question 2 · Fractions — 3 marks

$1\frac{7}{11}$

M1 for $\frac{9}{2} \div \frac{11}{4}$; M1 for $\frac{9}{2} \times \frac{4}{11}$; A1 for $1\frac{7}{11}$

Note: Common error: inverting the wrong fraction.

Question 3 · Forming and Solving Equations — 2 marks

$m = 12$

M1 for $5m - 15 = 45$ or $m - 3 = 9$; A1 for 12

Note: Common error: multiplying only the first term in the bracket.

Question 4 · Fractions — 2 marks

$\frac{1}{6}, \frac{1}{2}, \frac{7}{12}, \frac{3}{4}$

M1 for converting to a common denominator (e.g. 24) or to decimals, at least 3 correct;

A1 for $\frac{1}{6}, \frac{1}{2}, \frac{7}{12}, \frac{3}{4}$

Note: Common error: ordering by the size of the denominator.

Question 5 · Inequalities — 3 marks

$x \geq 2$

M1 for $x + 6 \geq 8$; M1 for $x \geq 8 - 6$; A1 for $x \geq 2$

Note: Award M2 A0 for $x = 2$.

Question 6 · Percentages — 3 marks

16.8, 8.4, 4.2

3 marks for all three correct; or 2 marks for 2 correct; or 1 mark for 1 correct

Note: Common error: 2½% calculated as 25%.

Question 7 · Expansion and Factorisation — 3 marks

(a) 3

B1 for 3

(b) 3

B1 for 3

(c) 7n

B1 for 7n

Question 8 · Forming and Solving Equations — 2 marks

(a) $7t + 11$

1 mark for $7t + 11$ or equivalent
Note: Do not accept $18t$.

(b) $5b + 18$

1 mark for $5b + 18$ or equivalent

Question 9 · Fractions — 2 marks

$\frac{2}{9}$

M1 for writing both fractions with a common denominator, e.g. $\frac{3}{9} - \frac{1}{9}$; A1 for $\frac{2}{9}$
Note: Common error: adding/subtracting numerators and denominators.

Question 10 · Inequalities — 2 marks

(a) $-2 < x \leq 3$

B1 for $-2 < x \leq 3$
Note: Common error: open and closed circles swapped.

(b) 2

B1 for 2
Note: Common error: 3.

Question 11 · Ratio, Proportion and Scaling — 3 marks

22 cm

M1 for $8.8 \times 100\,000$ (= 880 000 cm); M1 for $880\,000 \div 40\,000$; A1 for 22

Question 12 · Inequalities — 4 marks

(a) $2(x + 6) + 2 \times 9 = 2x + 30 < 59$

M1 for $2(x + 6) + 2 \times 9$ or $x + 6 + 9 + x + 6 + 9$
A1 for $2x + 30 < 59$ with no errors

(b) 14

M1 for $2x < 29$ or $x < 14.5$
A1 for 14

Question 13 · Ratio, Proportion and Scaling — 5 marks

(a) 224.3

M1 for $67 \div 100 \times 170$ (= 113.9); M1 for $92 \div 100 \times 120$ (= 110.4); M1 for adding their two values; A1 for 224.3

(b) No, 224.3 > 150

C1 for a correct conclusion using their (a)

Question 14 · Percentages — 4 marks

72

P1 for 26% of 1200 (= 312); P1 for 80% of 1200 (= 960) and 75% of 960 (= 720); P1 for $960 - 720$ (= 240); A1 for 72
Note: Common error: applying the third percentage to the whole total.

Question 15 · Expansion and Factorisation — 3 marks

(a) Barry: a + 7; Cindy: 4a

1 mark for a + 7 and 4a
Note: Common error: a − 7 for 'two more'.

(b) Ali: b − 7; Cindy: 4(b − 7)

2 marks for both correct; or 1 mark for 1 correct
Note: Accept 4b − 28. Do not accept 4b − 7.

Question 16 · Percentages — 3 marks

£191

P2 for £171.90 ÷ 0.9 oe (P1 for a partially correct method); A1 for £191
Note: Common error: £171.90 × 1.1 = £189.09.

Question 17 · Ratio, Proportion and Scaling — 4 marks

28

P1 for boys 3k and girls 4k (or 7 parts); P1 for $\frac{2}{3} \times 3 + \frac{1}{4} \times 4$ (= 3 parts walk); P1 for 12 ÷ 3 (= 4); A1 for 28