FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

A17: Linear equations

Solve problems by forming and solving linear equations

20 marks · 25 minutes · Non-calculator

1) The angles of a quadrilateral are $(x + 10)°$, $2x°$, $(3x - 30)°$ and $(2x + 20)°$. Find the largest angle.

..... °

[Question 1: 3 marks]

2) Ali is twice as old as Ben. In 8 years, Ali will be 1.5 times as old as Ben. How old are they now?

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[Question 2: 3 marks]

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3) A rectangle is $(3x - 1)$ cm long and $(x + 2)$ cm wide. Its perimeter is 34 cm. Find its area.

..... cm^2

[Question 3: 3 marks]

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4) An isosceles triangle has sides $(2x + 3)$, $(2x + 3)$ and $(x + 5)$ cm. Its perimeter is 41 cm. Find the length of the base.

..... cm

[Question 4: 3 marks]

5) Two numbers differ by 7. Three times the smaller is 4 less than twice the larger. Find the numbers.

.....

[Question 5: 3 marks]

6) Adult tickets cost £12 and child tickets £7. 50 tickets are sold for £475. How many adult tickets are sold?

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[Question 6: 3 marks]

7) The mean of x, $x + 2$ and $x + 4$ is 10. Find x.

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[Question 7: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	110	$8x = 360$ (P1); $x = 45$ (P1); angles 55, 90, 105, 110 (A1).
2	Ben 8, Ali 16	$2b + 8 = 1.5(b + 8)$ (P1, P1); A1.
3	66	$8x + 2 = 34$ (P1); $x = 4$ (P1); 11×6 (A1).
4	11	$5x + 11 = 41$ (P1); $x = 6$ (P1); A1.
5	10 and 17	$3s = 2(s + 7) - 4$ (P1, P1); A1.
6	25	$12a + 7(50 - a) = 475$ (P1); $5a = 125$ (P1); A1.
7	8	$3x + 6 = 30$ (P1); A1.