Chapter 2

Algebra

01. 0607_m23_qp_22 Q: 6

Solve.

$$5x - 10 = 3x - 6$$

$x =$ ..... [2]

---

02. 0607_m23_qp_22 Q: 7

Solve.

$$4x - 3 \geqslant 9$$

..... [2]

---

03. 0607_m23_qp_22 Q: 11

Solve the simultaneous equations.

$$5x - 2y = 12$$
$$3x + 4y = 2$$

$x =$ .....

$y =$ ..... [3]

---

04. 0607_m23_qp_22 Q: 12

Expand the brackets and simplify.

$$(4x - 3y)(4x + 3y)$$

..... [2]

---

05. 0607_m23_qp_22 Q: 14

Make x the subject of $A = \frac{3(x+y)}{x}$.

$x =$ ..... [3]

---

06. 0607_m23_qp_22 Q: 15

Factorise.

$$5x^2 - xy - 4y^2$$

..... [2]

---

07. 0607_s23_qp_21 Q: 2

Solve the equation.

$$7 - 5x = -3$$

$x =$ ..... [2]

---

08. 0607_s23_qp_21 Q: 4

(a) Factorise.

$$2p^2 - pq$$

..... [1]

(b) Expand the brackets and simplify.

$$(p-7)(p+3)$$

..... [2]

---

09. 0607_s23_qp_21 Q: 9

Simplify $(3w^3)^3$.

..... [2]

---

10. 0607_s23_qp_21 Q: 15

Simplify.

(a) $\frac{3}{x+2} - \frac{2}{x-1}$

..... [3]

(b) $\frac{6x^2+x-12}{6ax-8a-3x+4}$

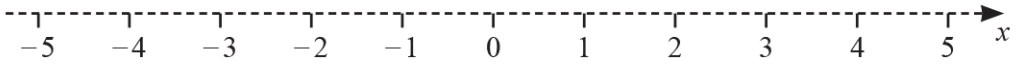
..... [5]

11. 0607_s23_qp_22 Q: 3

(a) Solve $x+9>6$.

..... [1]

(b) Show your answer to **part (a)** on this number line.



[1]

---

12. 0607_s23_qp_22 Q: 11

Solve the simultaneous equations.

$$\frac{1}{2}x - \frac{1}{3}y = 7$$
$$3x + y = 6$$

$x =$ .....

$y =$ ..... [3]

---

13. 0607_s23_qp_23 Q: 6

Expand.

$3x(2x^4 - 5)$

..... [2]

---

14. 0607_s23_qp_23 Q: 8

Find the next term and the nth term for this sequence.

1, 7, 17, 31, 49, …

next term .....

nth term ..... [3]

---

15. 0607_s23_qp_23 Q: 12

Factorise fully.

(a) $(3y)^2 - 16$

..... [1]

(b) $15ab - 1 - 3a + 5b$

..... [2]

---

16. 0607_m22_qp_22 Q: 11

Factorise.

$1+x-y-xy$

..... [2]

---

17. 0607_m22_qp_22 Q: 15

Simplify.

$$\frac{x-4}{x^2-16}$$

..... [2]

---

18. 0607_m22_qp_22 Q: 16

The solutions to the equation $x^2+gx+h=0$ are $\frac{1-\sqrt{17}}{2}$ and $\frac{1+\sqrt{17}}{2}$.

Find the value of g and the value of h.

$g =$ .....

$h =$ ..... [3]

---

19. 0607_m22_qp_22 Q: 17

Write as a single fraction, giving your answer in its simplest form.

$$2-\frac{3}{1+x}$$

..... [2]

---

20. 0607_s22_qp_21 Q: 1

On the number line, show the inequality $-2 \leqslant x < 3$.

[2]

---

21. 0607_s22_qp_21 Q: 4

Factorise $x^3 - 2x$.

..... [1]

---

22. 0607_s22_qp_21 Q: 6

Solve.

(a) $4x = 28$

$x =$ ..... [1]

(b) $3(a-6) = 24$

$a =$ ..... [2]

---

23. 0607_s22_qp_21 Q: 14

$$x^2 - 14x + c = (x + d)^2$$

Find the value of c and the value of d.

$c =$ .....

$d =$ ..... [3]

24. 0607_s22_qp_21 Q: 15

(a) Factorise fully.

$$6x^2 - 7x - 3$$

..... [2]

(b) Solve.

$$6x^2 - 7x - 3 < 0$$

..... [3]

---

25. 0607_s22_qp_22 Q: 3

Solve the equation.

$$x - 11 = -4$$

$x =$ ..... [1]

---

26. 0607_s22_qp_22 Q: 9

Solve the simultaneous equations.

$$5x+2y=-12$$
$$3x-\ y=-5$$

$x =$ .....

$y =$ ..... [3]

---

27. 0607_s22_qp_22 Q: 11

Solve.

$$6x^2-5x-6=0$$

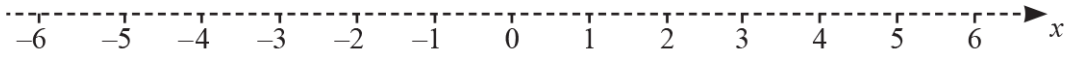
$x =$ ..... or $x =$ ..... [3]

---

28. 0607_s22_qp_23 Q: 3

Show this inequality on the number line.

$$-3 < x \leqslant 4$$



[2]

---

29. 0607_s22_qp_23 Q: 5

Expand.

$3(2x-1)$

..... [1]

---

30. 0607_s22_qp_23 Q: 8

Factorise fully.

$2cx^2-2dx-cx+d$

..... [2]

---

31. 0607_w22_qp_21 Q: 3

Expand.

$3(x-2y)$

..... [1]

---

32. 0607_w22_qp_21 Q: 8

Find an expression for the nth term of each sequence.

(a) 1, 7, 13, 19, 25, …

..... [2]

(b) 1, −2, 3, −4, 5, …

..... [2]

---

33. 0607_w22_qp_21 Q: 11

Solve.

(a) $4x^2 - 5x - 6 = 0$

$x =$ ..... or $x =$ ..... [3]

(b) $|2x + 1| = 3$

..... [2]

---

34. 0607_w22_qp_22 Q: 3

$$P = 2a + b^2 - 3c$$

Find P when $a = 5$, $b = -4$ and $c = -3$.

$P =$ ..... [2]

---

35. 0607_w22_qp_22 Q: 6

Solve $2x+6>5x-10$.

..... [2]

---

36. 0607_w22_qp_22 Q: 11

Simplify.

$$\frac{ax^2+5ax+bx+5b}{x^2-25}$$

..... [3]

---

37. 0607_w22_qp_23 Q: 2

Solve the equation.

$$2q-7=2-7q$$

$q =$ ..... [2]

---

38. 0607_w22_qp_23 Q: 7

Simplify.

$$30t^{30} \div 5t^5$$

..... [2]

---

39. 0607_w22_qp_23 Q: 13

Factorise.

(a) $49 - 16u^2$

..... [1]

(b) $1 + 4xy - 2x - 2y$

..... [2]

---

40. 0607_w22_qp_23 Q: 17

Simplify.

$$2-\frac{4-3x}{x-2}$$

Write your answer as a single fraction in its simplest form.

..... [3]

---

41. 0607_m21_qp_22 Q: 8

Expand and simplify.

$$4(2a+5b)-3(6b-3a)$$

..... [2]

---

42. 0607_m21_qp_22 Q: 11

Find the next term and an expression for the nth term of this sequence.

$$35, \quad 29, \quad 19, \quad 5, \quad \ldots$$

next term = ...

nth term = ... [3]

---

43. 0607_m21_qp_22 Q: 14

Write as a single fraction in its simplest form.

$$\frac{3a}{a+4} - \frac{a-1}{2a}$$

..... [3]

---

44. 0607_s21_qp_21 Q: 7

Factorise.

(a) $12ax - 2by + 3ay - 8bx$

..... [2]

(b) $5x^2 - 6x - 8$

..... [2]

---

45. 0607_s21_qp_22 Q: 6

(a) Factorise $a^2 - b^2$.

..... [1]

(b) Work out $5.37^2 - 4.63^2$.

..... [2]

---

46. 0607_s21_qp_22 Q: 7

Solve $2x+3 < 5x-12$.

..... [2]

---

47. 0607_s21_qp_22 Q: 16

Simplify $\dfrac{x^2y-3xy}{x^2-2x-3}$.

..... [3]

---

48. 0607_s21_qp_23 Q: 11

Here are the first five terms of a sequence.

$\frac{1}{4}$ 1 4 16 64

(a) Find the next term.

..... [1]

(b) Find the nth term.

..... [2]

---

49. 0607_s21_qp_23 Q: 12

Factorise.

$$1+a-c-ac$$

..... [2]

---

50. 0607_s21_qp_23 Q: 19

Write as a single fraction in its simplest form.

$$\frac{3}{x-2}-2$$

..... [2]

---

51. 0607_w21_qp_21 Q: 5

Solve.

$$2(4x-1)=3(2x+1)$$

$x =$ ..... [3]

---

52. 0607_w21_qp_21 Q: 8

Solve the simultaneous equations.

$$3x - 2y = 12$$
$$5x + y = 7$$

$x =$ .....

$y =$ ..... [3]

---

53. 0607_w21_qp_22 Q: 4

Write down the inequality shown on the number line.

..... [1]

---

54. 0607_w21_qp_22 Q: 6

$|x| < 2$

Write down all the integer values of x.

..... [1]

---

55. 0607_w21_qp_22 Q: 15

Solve.

$$\frac{8-x}{3} = \frac{x+1}{2}$$

$x =$ ..... [3]

---

56. 0607_w21_qp_22 Q: 16

Factorise.

$$3x + 6 - 2xy - 4y$$

..... [2]

---

57. 0607_w21_qp_22 Q: 18

Simplify.

$$\frac{w^2-9}{2w^2+5w-3}$$

..... [4]

---

58. 0607_w21_qp_23 Q: 4

Solve.

(a) $5-2x=0$

$x =$ ..... [1]

(b) $-12+2x=5x-3$

$x =$ ..... [2]

---

59. 0607_w21_qp_23 Q: 9

Expand the brackets and simplify.

$$5x(2-3x)-3x(3x-2)$$

..... [2]

---

60. 0607_w21_qp_23 Q: 10

Solve the simultaneous equations.
You must show all your working.

$$4x+3y=-10$$
$$3x-4y=\ \ 5$$

$x =$ .....

$y =$ ..... [4]

---

61. 0607_w21_qp_23 Q: 12

$$\frac{2x-3}{2x+3}-\frac{2x+3}{2x-3}=\frac{ax}{bx^2-c}$$

Find the values of a, b and c.

$a =$ .....

$b =$ .....

$c =$ ..... [4]

---

62. 0607_s20_qp_21 Q: 7

Simplify.

(a) $\frac{15w^{15}}{3w^3}$

..... [2]

(b) $\left(125y^6\right)^{\frac{2}{3}}$

..... [2]

---

63. 0607_s20_qp_21 Q: 15

Simplify.

$$\frac{3-a}{3p-6t-ap+2at}$$

..... [3]

---

64. 0607_s20_qp_21 Q: 16

Write as a single fraction in its simplest form.

$$\frac{1}{x-3}-\frac{2}{x}$$

..... [3]

---

65. 0607_s20_qp_22 Q: 5

Dippi buys 5 burgers and 4 bags of chips for a total cost of $8.10 .
Burgers cost $1.10 each.

Find the cost of one bag of chips.

$ ..... [3]

---

66. 0607_s20_qp_22 Q: 8

Solve the simultaneous equations.

$$3x + 2y = -1$$
$$7x - y = 26$$

$x =$ .....

$y =$ ..... [3]

---

67. 0607_s20_qp_22 Q: 12

Factorise.

$$2x^2 - 3x - 5$$

..... [2]

---

68. 0607_s20_qp_22 Q: 13

Solve.

$$(x-4)(x+3) > 0$$

..... [2]

---

69. 0607_s20_qp_23 Q: 3

Simplify.

$$\frac{a^2 \times a^5}{a^3}$$

..... [2]

---

70. 0607_s20_qp_23 Q: 5

Solve.

$$9-2x \leqslant 5(x+6)$$

..... [3]

---

71. 0607_s20_qp_23 Q: 10

Solve the simultaneous equations.

$$2x+3y=5$$
$$y=3x+9$$

$x =$ .....

$y =$ ..... [3]

---

72. 0607_s20_qp_23 Q: 12

Factorise completely.

(a) $4x^2y - 6xy^2$

..... [2]

(b) $9x^2 - 1$

..... [1]

---

73. 0607_w20_qp_21 Q: 3

Simplify fully.

$$\frac{5x}{12} \times \frac{4}{15x}$$

..... [2]

---

74. 0607_w20_qp_21 Q: 4

Solve.

$$-3(1-4x) = 9$$

$x =$ ..... [3]

---

75. 0607_w20_qp_21 Q: 10

Factorise.

(a) $8x+14$

..... [1]

(b) $8ax^2-6bx^3$

..... [2]

(c) $6ax+9ay-8bx-12by$

..... [2]

---

76. 0607_w20_qp_22 Q: 3

These are the first four terms in a sequence.

27 19 11 3

(a) Write down the next term.

..... [1]

(b) Find an expression, in terms of n, for the nth term of the sequence.

..... [2]

---

77. 0607_w20_qp_22 Q: 10

Factorise

(a) $x^2 - x - 6$,

..... [2]

(b) $3ax + 2bx - 4by - 6ay$.

..... [2]

---

78. 0607_w20_qp_20 Q: 2

Solve the equation.

$$2x - 7 = -3$$

$x =$ ..... [2]

---

79. 0607_w20_qp_23 Q: 4

Find the integer values of x when $-1 \leqslant x < 3$.

..... [2]

---

80. 0607_w20_qp_23 Q: 5

Solve the simultaneous equations.

$$2p - 3q = 7$$
$$p + 3q = 2$$

$p =$ .....

$q =$ ..... [2]

---

81. 0607_w20_qp_23 Q: 9

Simplify $4x^4 \times 5x^5$.

..... [2]

---

82. 0607_w20_qp_23 Q: 13

$$\left(2\sqrt{3} - 3\sqrt{2}\right)^2 = p + q\sqrt{6}$$

Find the value of p and the value of q.

$p =$ .....

$q =$ ..... [3]

---

83. 0607_w20_qp_23 Q: 17

Simplify.

$$\frac{3x-6y-ax+2ay}{x^3-2x^2y}$$

..... [4]

---

84. 0607_s19_qp_21 Q: 4

Expand and simplify.

$$4(3x+y)-3(x-2y)$$

..... [2]

---

85. 0607_s19_qp_21 Q: 6

(a) Write down the integer solutions to this inequality.

$$-2 \leqslant 2x < 8$$

..... [2]

(b) Solve $2+2x > 5x+14$.

..... [2]

---

86. 0607_s19_qp_21 Q: 9

Factorise completely.

$$2x^2 - 18$$

..... [2]

---

87. 0607_s19_qp_22 Q: 8

Solve the simultaneous equations.

$$a + b = 16$$
$$2a - b = 17$$

$a =$ .....

$b =$ ..... [2]

---

88. 0607_s19_qp_22 Q: 12

Factorise completely.

$ab - a - b + 1$

..... [2]

---

89. 0607_s19_qp_22 Q: 18

Simplify.

$$\frac{y^2 - 9}{xy + 3x}$$

..... [3]

---

90. 0607_s19_qp_23 Q: 4

Expand the brackets and simplify.

$2(3x - 1) + 3(1 - 2x)$

..... [2]

---

91. 0607_s19_qp_23 Q: 14

Factorise completely.

$6ac - 9bc - 8ad + 12bd$

..... [2]

---

92. 0607_w19_qp_21 Q: 6

9, 27, 81, 243, …

Find the nth term of this sequence.

..... [2]

---

93. 0607_w19_qp_21 Q: 10

Solve.

$$4w^2 - 8w - 5 = 0$$

$w =$ ..... or $w =$ ..... [3]

---

94. 0607_w19_qp_21 Q: 17

Simplify $\frac{ab-ac+2b-2c}{a^2-4}$.

..... [4]

---

95. 0607_w19_qp_22 Q: 11

Factorise completely.

$8x^2-18$

..... [2]

---

96. 0607_w19_qp_23 Q: 5

Factorise.

(a) $x^2 - 1$

..... [1]

(b) $3x^2 - 6ax - axy + 2a^2y$

..... [2]

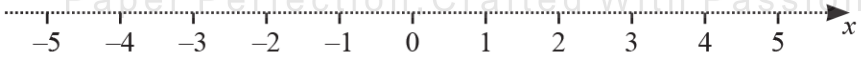
---

97. 0607_w19_qp_23 Q: 9

(a) Solve $3x - 2 > 7x + 6$.

..... [2]

(b) Show your solution to **part (a)** on this number line.



[1]

---

98. 0607_w19_qp_23 Q: 11

Expand and simplify.

$(3\sqrt{2} + 7)^2$

..... [3]

---

99. 0607_s18_qp_21 Q: 3

Solve these simultaneous equations.

$$x - 3y = 7$$
$$x - 2y = 5$$

$x =$ .....

$y =$ ..... [2]

---

100. 0607_s18_qp_21 Q: 5

These are the first five terms of a sequence.

1 0 1 4 9

Find the nth term of this sequence.

..... [2]

---

101. 0607_s18_qp_21 Q: 6

(a) Expand and simplify.

$$(2p-7q)(p+q)$$

.....[2]

(b) Factorise.

$$2-t-2a+at$$

.....[2]

---

102. 0607_s18_qp_21 Q: 9

(a) Find the value of $27^{\frac{2}{3}}$.

.....[1]

(b) Simplify $18h^{18} \div 3h^{3}$.

.....[2]

---

103. 0607_s18_qp_21 Q: 13

Simplify fully.

$$\frac{3t-t^2}{9-t^2}$$

..... [3]

---

104. 0607_s18_qp_22 Q: 5

Solve.

$$7x+9=5x+17$$

$x =$ ..... [2]

---

105. 0607_s18_qp_22 Q: 7

Solve.

$$3x+7<1$$

..... [2]

---

106. 0607_s18_qp_22 Q: 11

Here are the first four terms of a sequence.

13 9 5 1

(a) Write down the next term.

..... [1]

(b) Find an expression, in terms of n, for the nth term.

..... [2]

---

107. 0607_s18_qp_22 Q: 15

Expand the brackets and simplify.

$$(3x-5y)(5x-3y)$$

..... [3]

---

108. 0607_s18_qp_22 Q: 17

Factorise.

$$4x^2-4xy-3y^2$$

..... [3]

---

109. 0607_s18_qp_22 Q: 18

Write as a single fraction in its simplest form.

$$\frac{n+1}{n-1} - \frac{n-1}{n+1}$$

..... [4]

---

110. 0607_s18_qp_23 Q: 3

Expand and simplify $5(2x+3y)-3(4y-2x)$.

..... [2]

---

111. 0607_s18_qp_23 Q: 10

Solve $3-x \geqslant 2x+15$.

..... [2]

---

112. 0607_w18_qp_21 Q: 5

Solve.

$$6x-5=19$$

$x =$ ..... [2]

---

113. 0607_w18_qp_21 Q: 9

Simplify.

$(5x^4y^3)^2$

..... [2]

---

114. 0607_w18_qp_21 Q: 10

List the integer values of x for which $-4 \leqslant 2x < 6$.

..... [2]

---

115. 0607_w18_qp_21 Q: 12

Find the next term and an expression for the nth term of the following sequence.

$-9, \quad -3, \quad 7, \quad 21, \quad 39, \quad \ldots$

next term = ...

nth term = ... [3]

---

116. 0607_w18_qp_21 Q: 14

Solve the simultaneous equations.

$$3x+2y=4$$
$$2x-3y=7$$

$x =$ .....

$y =$ ..... [4]

---

117. 0607_w18_qp_21 Q: 15

Factorise.

$$4x^2-7x-2$$

..... [2]

---

118. 0607_w18_qp_22 Q: 7

Factorise.

(a) $64x^2-1$

..... [1]

(b) $2y^2-y-6$

..... [2]

---

119. 0607_w18_qp_22 Q: 8

(a) $2^3 \div 2^7 = 2^p$

Find the value of p.

..... [1]

(b) $\sqrt{2^5} = 2^q$

Find the value of q.

..... [1]

---

120. 0607_w18_qp_22 Q: 10

Solve.

$4x + 9 \leqslant 3(2x - 1)$

..... [3]

---

121. 0607_w18_qp_22 Q: 13

Simplify.

$(5 + 2\sqrt{3})^2$

..... [3]

---

122. 0607_w18_qp_23 Q: 2

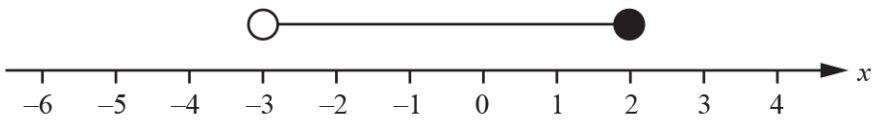
Solve.

$$6-2t=-12$$

$t =$ ..... [2]

---

123. 0607_w18_qp_23 Q: 3



Write down the inequality shown above.

..... [1]

---

124. 0607_w18_qp_23 Q: 7

Solve the simultaneous equations.

$$3t-u=-5$$
$$3t+2u=1$$

$t =$ .....

$u =$ ..... [2]

---

125. 0607_w18_qp_23 Q: 8

Simplify.

(a) $12v^{12} \times 3v^{3}$

..... [2]

(b) $\left(100x^{100}\right)^{\frac{3}{2}}$

..... [2]

---

126. 0607_w18_qp_23 Q: 15

Write as a single fraction in its simplest form.

$$\frac{7}{x-1} - \frac{5}{2x+3}$$

..... [3]

---

127. 0607_s17_qp_21 Q: 3

Expand.

$x(x^3 - 4x)$

..... [2]

---

128. 0607_s17_qp_21 Q: 9

Solve the simultaneous equations.

$$4x + 3y = 0$$
$$2x - y = 5$$

$x =$ .....

$y =$ ..... [3]

---

129. 0607_s17_qp_21 Q: 12

Solve.

$2x^2 - 5x - 7 = 0$

$x =$ ..... or $x =$ ..... [3]

---

130. 0607_s17_qp_21 Q: 15

Expand the brackets and simplify.

$$(4x-3y)(2x-5y)$$

..... [3]

---

131. 0607_s17_qp_22 Q: 3

Factorise completely.

$$6x^2-2x$$

..... [2]

---

132. 0607_s17_qp_22 Q: 5

Simplify $4(2x-1)-3(x-2)$.

..... [2]

---

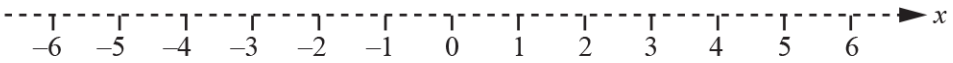
133. 0607_s17_qp_22 Q: 7

$3x+2 \geqslant 5x-6$

(a) Solve the inequality.

..... [2]

(b) Show your solution to **part (a)** on this number line.



[1]

---

134. 0607_s17_qp_22 Q: 10

Expand the brackets and simplify.

$$(2x-3y)(3x-4y)$$

..... [3]

---

135. 0607_s17_qp_23 Q: 4

These are the first four terms of a sequence.

15 11 7 3

Find

(a) the next term,

..... [1]

(b) the nth term.

..... [2]

---

136. 0607_s17_qp_23 Q: 5

Expand.

$x^3(x^2+3)$

..... [2]

---

137. 0607_s17_qp_23 Q: 8

Simplify.

(a) $8y^8 \div 2y^2$

..... [2]

(b) $(2w^2)^5$

..... [2]

---

138. 0607_s17_qp_23 Q: 10

$y = x + 1$ and $y = 2 - x$

Find the value of x.

$x =$ ..... [2]

---

139. 0607_s17_qp_23 Q: 14

Factorise.

(a) $p^2 - p - 30$

..... [2]

(b) $x(u - v) - y(v - u)$

..... [2]

---

140. 0607_s17_qp_23 Q: 15

$$y \propto \frac{1}{x^3}$$

When $x = 2$, $y = 2$.

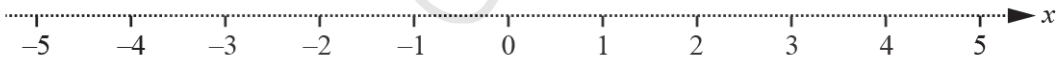
Find y when $x = 10$.

$y =$ ..... [3]

---

141. 0607_w17_qp_21 Q: 3

Show the inequality $-1 < x \leqslant 4$ on this number line.



[2]

---

142. 0607_w17_qp_21 Q: 5

Solve the simultaneous equations.

$$x - 3y = 4$$
$$5x - 6y = -7$$

$x =$ .....

$y =$ ..... [3]

---

143. 0607_w17_qp_21 Q: 11

(a) Factorise $x^2 - 3x - 10$.

..... [2]

(b) Using your answer to **part (a)**, solve $x^2 - 3x - 10 > 0$.

..... [2]

---

144. 0607_w17_qp_21 Q: 13

Expand the brackets and simplify.

$$(3a-5b)(2a-3b)$$

..... [3]

---

145. 0607_w17_qp_22 Q: 11

Simplify.

(a) $\frac{12x^{12}}{4x^4}$

..... [2]

(b) $(16x^{16})^{\frac{1}{4}}$

..... [2]

---

146. 0607_w17_qp_22 Q: 14

Simplify.

$$\frac{x^2-x}{x^2-1}$$

..... [3]

---

147. 0607_w17_qp_23 Q: 8

Solve the equation.

$$45-\frac{90}{x}=15$$

$x =$ ..... [3]

---

148. 0607_w17_qp_23 Q: 10

Solve the equation.

$$x^2-5x-24=0$$

$x =$ ..... or $x =$ ..... [3]

---

149. 0607_w17_qp_23 Q: 15

Factorise completely.

$$5x^2 - 125y^2$$

..... [3]

01. 0607_m23_ms_22 Q: 6

Question	Answer	Marks	Partial Marks
	2	2	**M1** for $5x-3x=-6+10$ oe

02. 0607_m23_ms_22 Q: 7

Question	Answer	Marks	Partial Marks
	$x \geqslant 3$ final answer	2	**M1** for $4x \geqslant 9+3$

03. 0607_m23_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	$[x=]\ 2$ $[y=]\ -1$	3	**M1** for correct method to eliminate one variable **A1** for each If 0 scored **SC1** for answers that satisfy one equation

04. 0607_m23_ms_22 Q: 12

Question	Answer	Marks	Partial Marks
	$16x^2-9y^2$ final answer	2	**M1** for 3 terms correct of $16x^2+12xy-12xy-9y^2$

05. 0607_m23_ms_22 Q: 14

Question	Answer	Marks	Partial Marks
	$x=\dfrac{3y}{(A-3)}$ oe	3	**M1** for correct elimination of fractions **M1** for correct collection of terms **M1** for correct division of equation of form $(p+k)x=q$ Only scores 3/3 for a correct answer

06. 0607_m23_ms_22 Q: 15

Question	Answer	Marks	Partial Marks
	$(5x+4y)(x-y)$ oe	2	**M1** for $(ax+b)(cx+d)$ with two of $ac=5,\ \ bd=-4,\ ad+bc=-1$ or $5x(x-y)+4y(x-y)$

07. 0607_s23_ms_21 Q: 2

Question	Answer	Marks	Partial Marks
	2	2	**M1** for $7+3=5x$ or $-5x=-3-7$ or $\dfrac{7}{5}-x=\dfrac{3}{5}$

08. 0607_s23_ms_21 Q: 4

Question	Answer	Marks	Partial Marks
(a)	$p(2p-q)$ final answer	1	
(b)	$p^2-4p-21$ final answer	2	**B1** for three terms correct in $p^2-7p+3p-21$

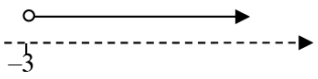
09. 0607_s23_ms_21 Q: 9

Question	Answer	Marks	Partial Marks
	$27w^9$ final answer	2	**B1** for kw^9 or $27w^k$

10. 0607_s23_ms_21 Q: 15

Question	Answer	Marks	Partial Marks
(a)	$\frac{x-7}{(x+2)(x-1)}$ final answer	3	**B1** for $3x-3-2x-4$ oe or better **B1** for common denominator $(x+2)(x-1)$ or x^2+x-2
(b)	$\frac{2x+3}{2a-1}$ or $\frac{-2x-3}{1-2a}$ final answer	5	**B2** for $(2x+3)(3x-4)$ or **B1** for $(ax+b)(cx+d)$ with $ac = 6$ and either $bd = -12$ or $ad+bc = 1$ or for $2x(3x-4)+3(3x-4)$ or $3x(2x+3)-4(2x+3)$ **B2** for $(2a-1)(3x-4)$ or **B1** for $2a(3x-4)-(3x-4)$ or $3x(2a-1)-4(2a-1)$

11. 0607_s23_ms_22 Q: 3

Question	Answer	Marks	Partial Marks
(a)	$x > -3$ or $-3 < x$	1	
(b)	 Correct line with correct end oe	1	**FT** *their* inequality from **(a)**

12. 0607_s23_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	$x = 6, y = -12$	3	**M1** for correct method to eliminate one variable **B1** for $x = 6$ **B1** for $y = -12$ If 0 scored, **SC1** for a pair of solutions that satisfy one equation.

13. 0607_s23_ms_23 Q: 6

Question	Answer	Marks	Partial Marks
	$6x^5 - 15x$ final answer	2	**M1** for $6x^5 \pm kx$ or $px^k - 15x$ oe

14. 0607_s23_ms_23 Q: 8

Question	Answer	Marks	Partial Marks
	71	B1	
	$2n^2 - 1$	B2	**M1** for any quadratic or 2nd differences of 4 seen

15. 0607_s23_ms_23 Q: 12

Question	Answer	Marks	Partial Marks
(a)	$(3y - 4)(3y + 4)$ final answer	1	
(b)	$(5b - 1)(3a + 1)$ oe final answer	2	**M1** for $5b(3a + 1) - 1 - 3a$ or $3a(5b - 1) + 5b - 1$

16. 0607_m22_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	$(1 + x)(1 - y)$ final answer	2	**B1** for $1 + x - y(1 + x)$ or for $1 - y + x(1 - y)$

17. 0607_m22_ms_22 Q: 15

Question	Answer	Marks	Partial Marks
	$\frac{1}{x+4}$ final answer	2	**B1** for $(x-4)(x+4)$ seen

18. 0607_m22_ms_22 Q: 16

Question	Answer	Marks	Partial Marks
	[g =] –1 [h =] –4	3	**B1** for [g =] –1 **M1** for $\left(x-\frac{1-\sqrt{17}}{2}\right)\left(x-\frac{1+\sqrt{17}}{2}\right)$ soi

19. 0607_m22_ms_22 Q: 17

Question	Answer	Marks	Partial Marks
	$\frac{2x-1}{1+x}$ oe final answer	2	**B1** for $2(1+x)-3$ or better

20. 0607_s22_ms_21 Q: 1

Question	Answer	Marks	Partial Marks
		2	**B1** for either correct line or correct ends Two lines scores max of 1 mark

21. 0607_s22_ms_21 Q: 4

Question	Answer	Marks	Partial Marks
	$x(x^2-2)$ final answer	1	

22. 0607_s22_ms_21 Q: 6

Question	Answer	Marks	Partial Marks
(a)	7	1	
(b)	14	2	**M1** for $a-6=24\div 3$ or $3a-18=24$

23. 0607_s22_ms_21 Q: 14

Question	Answer	Marks	Partial Marks
	[c =] 49 [d =]–7	3	**M1** for correct expansion of $(x+d)^2$ **M1** for equating *their* coefficients (dependent on a three term expression) OR **B2** for $d=-7$ only or **B1** for $2d=[\pm]\ 14$ soi If 0 scored **SC1** for $c=(\textit{their } d)^2$

24. 0607_s22_ms_21 Q: 15

Question	Answer	Marks	Partial Marks
(a)	$(2x-3)(3x+1)$ final answer	**2**	**M1** for $(ax+b)(cx+d)$ where $ac = 6$ AND $bd = -3$ or $ad+bc=-7$ or for $2x(3x+1)-3(3x+1)$ or for $3x(2x-3)+(2x-3)$
(b)	$-\frac{1}{3} < x < \frac{3}{2}$ final answer or '$x > -\frac{1}{3}$ AND $x < \frac{3}{2}$' final answer (must include the word AND)	**3**	**FT** *their* factors from (a) **B2** for '$x > -\frac{1}{3}$ [or] $x < \frac{3}{2}$' or **B1** for $x > -\frac{1}{3}$ or **B1** for $x < \frac{3}{2}$ or **B1** for $[x=]-\frac{1}{3}$ AND $[x=]\frac{3}{2}$ soi

25. 0607_s22_ms_22 Q: 3

Question	Answer	Marks	Partial Marks
	7	**1**	

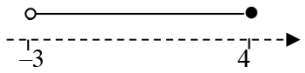
26. 0607_s22_ms_22 Q: 9

Question	Answer	Marks	Partial Marks
	Correct method to eliminate one variable	**M1**	If 0 scored, **SC1** for answers that satisfy one equation
	$[x=]-2$	**A1**	
	$[y=]-1$	**A1**	

27. 0607_s22_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	$-\frac{2}{3}, \frac{3}{2}$	**3**	**M2** for $(3x+2)(2x-3)$ or **M1** for $(ax+b)(cx+d)$ with two of $ac=6,\ bd=-6,\ ad+bc=-5$ OR **M2** for correct use of formula or **M1** for one error in substituting into formula

28. 0607_s22_ms_23 Q: 3

Question	Answer	Marks	Partial Marks
	 Correct line Correctly marked ends	2	**B1** for correct line or correct ends

29. 0607_s22_ms_23 Q: 5

Question	Answer	Marks	Partial Marks
	$6x - 3$ final answer	1	

30. 0607_s22_ms_23 Q: 8

Question	Answer	Marks	Partial Marks
	$(cx - d)(2x - 1)$ final answer	2	**B1** for 2 pairs factorised e.g. $cx(2x - 1) - d(2x - 1)$ or $2x(cx - d) - (cx - d)$

31. 0607_w22_ms_21 Q: 3

Question	Answer	Marks	Partial Marks
	$3x - 6y$ final answer	1	

32. 0607_w22_ms_21 Q: 8

Question	Answer	Marks	Partial Marks
(a)	$6n - 5$ oe final answer	2	**M1** for $6n + k$ or $kn - 5$
(b)	$(-1)^{n+1}n$ oe final answer	2	**B1** for $(-1)^k$ oe

33. 0607_w22_ms_21 Q: 11

Question	Answer	Marks	Partial Marks
(a)	$2\,,\ -\frac{3}{4}$ oe	3	**M2** for $(4x + 3)(x - 2)$ or **M1** for $(ax + b)(cx + d)$ where $ac = 4$ and $bd = -6$ OR **M2** for $\frac{5 \pm 11}{8}$ or **M1** for $\frac{-(-5) \pm \sqrt{(-5)^2 - 4 \times 4 \times (-6)}}{2 \times 4}$ condone 1 slip

Question	Answer	Marks	Partial Marks
(b)	–2, 1	**2**	**B1** for each

34. 0607_w22_ms_22 Q: 3

Question	Answer	Marks	Partial Marks
	35	**2**	**B1** for two of 10, +16 or +9

35. 0607_w22_ms_22 Q: 6

Question	Answer	Marks	Partial Marks
	$x < \frac{16}{3}$ or $x < 5\frac{1}{3}$ final answer	**2**	**B1** for x * $\frac{16}{3}$ where * is =, >, ⩽ or ⩾ OR **M1** for $6 + 10 > 5x - 2x$ oe

36. 0607_w22_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	$\frac{ax+b}{x-5}$ final answer	**3**	**B1** for $(ax + b)(x + 5)$ **B1** for $(x + 5)(x - 5)$

37. 0607_w22_ms_23 Q: 2

Question	Answer	Marks	Partial Marks
	1	**2**	**M1** for $2q + 7q = 2 + 7$ oe

38. 0607_w22_ms_23 Q: 7

Question	Answer	Marks	Partial Marks
	$6t^{25}$	**2**	**B1** for kt^{25} or $6t^k$

39. 0607_w22_ms_23 Q: 13

Question	Answer	Marks	Partial Marks
(a)	$(7+4u)(7-4u)$ final answer	**1**	

Question	Answer	Marks	Partial Marks
(b)	$(1-2x)(1-2y)$ final answer	2	**M1** for $1-2y-2x(1-2y)$ or $1-2x-2y(1-2x)$

40. 0607_w22_ms_23 Q: 17

Question	Answer	Marks	Partial Marks
	$\frac{5x-8}{x-2}$ final answer	3	**B1**for common denominator $x-2$ **M1** for $2(x-2)-(4-3x)$ or better seen

41. 0607_m21_ms_22 Q: 8

Question	Answer	Marks	Partial Marks
	$17a+2b$ final answer	2	**B1** for answer $17a+kb$ or $ka+2b$ $k\neq 0$ or **M1** for $8a+20b$ or $-18b+9a$

42. 0607_m21_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	-13 $37-2n^2$	3	**B1** for -13 **M1** for any quadratic expression or common second differences of 4

43. 0607_m21_ms_22 Q: 14

Question	Answer	Marks	Partial Marks
	$\frac{5a^2-3a+4}{2a(a+4)}$ or $\frac{5a^2-3a+4}{2a^2+8a}$ final answer	3	**M1** for denominator $2a(a+4)$ **B1** for $3a\times 2a-(a-1)(a+4)$ or better

44. 0607_s21_ms_21 Q: 7

Question	Answer	Marks	Partial Marks
(a)	$(3a-2b)(4x+y)$ final answer	2	**M1** for $3a(4x+y)-2b(y+4x)$ or $4x(3a-2b)-y(2b-3a)$ oe
(b)	$(5x+4)(x-2)$ final answer	2	**M1** for $(5x+a)(x+b)$ where $ab=-8$ or $a+5b=-6$ or for $x(5x+4)-2(5x+4)$ or for $5x(x-2)+4(x-2)$

45. 0607_s21_ms_22 Q: 6

Question	Answer	Marks	Partial Marks
(a)	$(a + b)(a – b)$ final answer	1	
(b)	7.4	2	**M1** for (5.37 + 4.63)(5.37 – 4.63) or better

46. 0607_s21_ms_22 Q: 7

Question	Answer	Marks	Partial Marks
	$x > 5$	2	**M1** for $3 + 12 < 5x – 2x$ oe If 0 scored, **SC1** for x * 5.

47. 0607_s21_ms_22 Q: 16

Question	Answer	Marks	Partial Marks
	$\frac{xy}{x+1}$ final answer	3	**B1** for $xy(x – 3)$ **B1** for $(x – 3)(x + 1)$

48. 0607_s21_ms_23 Q: 11

Question	Answer	Marks	Partial Marks
(a)	256	1	
(b)	4^{n-2} oe	2	**M1** for 4^{n+k}, $k \neq 0$ or 2^{2n+k}, $k \neq 0$

49. 0607_s21_ms_23 Q: 12

Question	Answer	Marks	Partial Marks
	$(1+a)(1-c)$	2	**M1** for $1+a-c(1+a)$ or $1-c+a(1-c)$

50. 0607_s21_ms_23 Q: 19

Question	Answer	Marks	Partial Marks
	$\frac{7-2x}{x-2}$ final answer	2	**B1** for $3 – 2(x – 2)$

51. 0607_w21_ms_21 Q: 5

Question	Answer	Marks	Partial Marks
	$2\frac{1}{2}$ oe	3	**M1** for $8x – 2 = 6x + 3$ **M1FT** for $8x – 6x = 3 + 2$

52. 0607_w21_ms_21 Q: 8

Question	Answer	Marks	Partial Marks
	Correctly eliminating one variable	**M1**	
	$x = 2$ $y = -3$	**A2**	**A1** for each If 0 scored, **SC1** for correct substitution and evaluation to find other variable.

53. 0607_w21_ms_22 Q: 4

Question	Answer	Marks	Partial Marks
	$-3 < x \leqslant 2$	**1**	

54. 0607_w21_ms_22 Q: 6

Question	Answer	Marks	Partial Marks
	–1, 0, 1	**1**	

55. 0607_w21_ms_22 Q: 15

Question	Answer	Marks	Partial Marks
	2.6 oe	**3**	**B2** for $16 - 3 = 3x + 2x$ or better or **M1** for $2(8 - x) = 3(x + 1)$

56. 0607_w21_ms_22 Q: 16

Question	Answer	Marks	Partial Marks
	$(x+2)(3-2y)$ final answer	**2**	**B1** for $3(x+2) - 2y(x+2)$ or $x(3-2y) + 2(3-2y)$

57. 0607_w21_ms_22 Q: 18

Question	Answer	Marks	Partial Marks
	$\frac{w-3}{2w-1}$ final answer	**4**	**B1** for $(w-3)(w+3)$ **B2** for $(w+3)(2w-1)$ or **B1** for $(w+a)(2w+b)$ where $ab = -3$ or $2a + b = 5$ or $2w(w+3) - (w+3)$ or $w(2w-1) + 3(2w-1)$

58. 0607_w21_ms_23 Q: 4

Question	Answer	Marks	Partial Marks
(a)	2.5 oe	1	
(b)	–3	2	**M1** for $-12 + 3 = 5x - 2x$ oe or better

59. 0607_w21_ms_23 Q: 9

Question	Answer	Marks	Partial Marks
	$-24x^2 + 16x$ final answer	2	**B1** for $-24x^2 + kx$ or $kx^2 + 16x$ as answer or **M1** for $10x - 15x^2$ or $-9x^2 + 6x$

60. 0607_w21_ms_23 Q: 10

Question	Answer	Marks	Partial Marks
	Correctly equating one set of coefficients	M1	
	Correct method to eliminate one variable	M1	
	$[x =] -1$	A1	
	$[y =] -2$	A1	If 0 scored, **SC1** for answers that satisfy one equation

61. 0607_w21_ms_23 Q: 12

Question	Answer	Marks	Partial Marks
	$[a =] -24$ $[b =] 4$ $[c =] 9$	4	**B1** for $(2x+3)(2x-3)$ or better as denominator **M1** for $(2x-3)^2 - (2x+3)^2$ seen **B1** for $4x^2 - 12x + 9$ or $4x^2 + 12x + 9$ or $4x^2 - 9$ or $4x \times -6$

62. 0607_s20_ms_21 Q: 7

Question	Answer	Marks	Partial Marks
(a)	$5w^{12}$	2	**B1** for kw^{12} or $5w^k$
(b)	$25y^4$	2	**B1** for ky^4 or $25y^k$

63. 0607_s20_ms_21 Q: 15

Question	Answer	Marks	Partial Marks
	$\frac{1}{p-2t}$ final answer	3	**B2** for $(p-2t)(3-a)$ or **B1** for $3(p-2t)-a(p-2t)$ or for $p(3-a)-2t(3-a)$

64. 0607_s20_ms_21 Q: 16

Question	Answer	Marks	Partial Marks
	$\frac{6-x}{x(x-3)}$ oe final answer	3	**B1** for $x-2\,(x-3)$ or better **M1** for common denominator $x(x-3)$ oe

65. 0607_s20_ms_22 Q: 5

Question	Answer	Marks	Partial Marks
	0.65	3	**M2** for $\frac{8.10-5\times1.1}{4}$ oe or **M1** for 5×1.1

66. 0607_s20_ms_22 Q: 8

Question	Answer	Marks	Partial Marks
	$[x=]\ 3$ $[y=]\ -5$	3	**M1** for correct method to eliminate one variable **B1** for each If 0 scored, **SC1** for *their* answers satisfying one equation

67. 0607_s20_ms_22 Q: 12

Question	Answer	Marks	Partial Marks
	$(2x-5)(x+1)$	2	**M1** for $(2x+a)(x+b)$ where $ab=-5$ or $a+2b=-3$

68. 0607_s20_ms_22 Q: 13

Question	Answer	Marks	Partial Marks
	$x>4,\ \ x<-3$	2	**B1** for each

69. 0607_s20_ms_23 Q: 3

Question	Answer	Marks	Partial Marks
	a^4	2	**B1** for a^7 or $a^{-1} \times a^5$ or $a^2 \times a^2$

70. 0607_s20_ms_23 Q: 5

Question	Answer	Marks	Partial Marks
	$x \geqslant -3$	3	**B2** for x * -3 where * is = or < or > or $\leqslant$ or **M1** for $9 - 2x \leqslant 5x + 30$ **M1FT** for correctly isolating terms

71. 0607_s20_ms_23 Q: 10

Question	Answer	Marks	Partial Marks
	$x = -2,\ y = 3$	3	**M1** for correct equation in x or equalising coefficients of x or y and adding / subtracting appropriately. **B1** for one correct solution If 0 scored, **SC1** for a correct substitution and evaluation of the other variable

72. 0607_s20_ms_23 Q: 12

Question	Answer	Marks	Partial Marks
(a)	$2xy(2x - 3y)$	2	**B1** for any correct partially factorised expression
(b)	$(3x + 1)(3x - 1)$	1	

73. 0607_w20_ms_21 Q: 3

Question	Answer	Marks	Partial Marks
	$\frac{1}{9}$	2	**M1** for an equivalent fraction

74. 0607_w20_ms_21 Q: 4

Question	Answer	Marks	Partial Marks
	1	3	**M2** for $12x = 9 + 3$ or $4x - 1 = 3$ oe or **M1** for $-3 + 12x$ or $-[1](1 - 4x) = 3$ oe

75. 0607_w20_ms_21 Q: 10

Question	Answer	Marks	Partial Marks
(a)	$2(4x+7)$	**1**	
(b)	$2x^2(4a-3bx)$	**2**	**M1** for a correct partial factorisation e.g. $2(4ax^2-3bx^3)$ or $x(8ax-6bx^2)$ or $x^2(8a-6bx)$ or $2x(4ax-3bx^2)$
(c)	$(2x+3y)(3a-4b)$	**2**	**M1** for $3a(2x+3y)-4b(3y+2x)$ or $2x(3a-4b)+3y(3a-4b)$

76. 0607_w20_ms_22 Q: 3

Question	Answer	Marks	Partial Marks
(a)	–5	**1**	
(b)	$35-8n$ oe	**2**	**B1** for $k-8n$ or $35-kn$

77. 0607_w20_ms_22 Q: 10

Question	Answer	Marks	Partial Marks
(a)	$(x-3)(x+2)$	**2**	**B1** for $(x+a)(x+b)$ where $ab=-6$ or $a+b=-1$ or **B1** for $x(x+2)-3(x+2)$ or $x(x-3)+2(x-3)$
(b)	$(x-2y)(3a+2b)$	**2**	**B1** for $x(3a+2b)-2y(3a+2b)$ oe or $3a(x-2y)+2b(x-2y)$ oe

78. 0607_w20_ms_23 Q: 2

Question	Answer	Marks	Partial Marks
	2	**2**	**M1** for $2x=-3+7$ or $-7+3=-2x$ or better

79. 0607_w20_ms_23 Q: 4

Question	Answer	Marks	Partial Marks
	–1, 0, 1, 2	**2**	**B1** for one error or omission

80. 0607_w20_ms_23 Q: 5

Question	Answer	Marks	Partial Marks
	$[p=]\ 3$ $[q=]\ -\frac{1}{3}$ oe	**2**	**B1** each If 0 scored **SC1** for correct substitution and evaluation of the other variable

81. 0607_w20_ms_23 Q: 9

Question	Answer	Marks	Partial Marks
	$20x^9$	2	**B1** for kx^9 or $20x^k$

82. 0607_w20_ms_23 Q: 13

Question	Answer	Marks	Partial Marks
	$[p=]$ 30 $[q=]$ –12	3	**B2** for either or **B1** for $12-6\sqrt{6}-6\sqrt{6}+18$ oe

83. 0607_w20_ms_23 Q: 17

Question	Answer	Marks	Partial Marks
	$\frac{3-a}{x^2}$	4	**B2** for $(x-2y)(3-a)$ or **B1** for $x(3-a)-2y(3-a)$ or $3(x-2y)-a(x-2y)$ **B1** for $x^2(x-2y)$

84. 0607_s19_ms_21 Q: 4

Question	Answer	Marks	Partial Marks
	$9x + 10y$ final answer	2	**B1** for $12x + 4y - 3x + 6y$ or $ax + 10y$, $a \neq 0$ or $9x + by$, $b \neq 0$

85. 0607_s19_ms_21 Q: 6

Question	Answer	Marks	Partial Marks
(a)	–1, 0, 1, 2, 3	2	**B1** for 5 correct and 1 extra or 3 or 4 correct with no errors or **M1** for $-1 \leqslant x < 4$
(b)	$x < -4$ final answer	2	**M1** for $2 - 14 > 5x - 2x$ oe If 0 scored, **SC1** for $x = -4$ or $x > -4$ or $x \leqslant -4$ or $x \geqslant -4$

86. 0607_s19_ms_21 Q: 9

Question	Answer	Marks	Partial Marks
	$2(x + 3)(x - 3)$ final answer	2	**B1** for $2(x^2 - 9)$ or $(2x + 6)(x - 3)$ or $(x + 3)(2x - 6)$ in working or answer space

87. 0607_s19_ms_22 Q: 8

Question	Answer	Marks	Partial Marks
	[a =] 11 [b =] 5	2	**B1** for each If 0 scored, **SC1** for *their* values of a and b satisfying one equation

88. 0607_s19_ms_22 Q: 12

Question	Answer	Marks	Partial Marks
	$(b-1)(a-1)$	2	**M1** for $a(b-1)-(b-1)$ or for $b(a-1)-(a-1)$ or for either factor correct

89. 0607_s19_ms_22 Q: 18

Question	Answer	Marks	Partial Marks
	$\frac{y-3}{x}$ final answer	3	**B1** for $(y-3)(y+3)$ **B1** for $x(y+3)$

90. 0607_s19_ms_23 Q: 4

Question	Answer	Marks	Partial Marks
	1	2	**M1** for $6x-2+3-6x$

91. 0607_s19_ms_23 Q: 14

Question	Answer	Marks	Partial Marks
	$(3c-4d)(2a-3b)$	2	**M1** for either factor correct or **M1** for $3c(2a-3b)-4d(2a-3b)$ or $2a(3c-4d)-3b(3c-4d)$

92. 0607_w19_ms_21 Q: 6

Question	Answer	Marks	Partial Marks
	3^{n+1} oe	2	**B1** for 3^k

93. 0607_w19_ms_21 Q: 10

Question	Answer	Marks	Partial Marks
	$-\frac{1}{2}$ oe , $\frac{5}{2}$ oe	3	**B2** for $(2w+1)(2w-5)$ **B1** for $(aw+b)(cw+d)$ with two correct from $ac=4$, $bd=-5$, $ad+bc=-8$

94. 0607_w19_ms_21 Q: 17

Question	Answer	Marks	Partial Marks
	$\frac{b-c}{a-2}$ oe final answer	4	**B2** for $(b-c)(a+2)$ or **B1** for $b(a+2)-c(a+2)$ or $a(b-c)+2(b-c)$ **B1** for $(a-2)(a+2)$

95. 0607_w19_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
	$2(2x-3)(2x+3)$	2	**M1** for $2(4x^2-9)$ or $(4x-6)(2x+3)$ or $(2x-3)(4x+6)$

96. 0607_w19_ms_23 Q: 5

Question	Answer	Marks	Partial Marks
(a)	$(x+1)(x-1)$	1	
(b)	$(3x-ay)(x-2a)$ oe	2	**B1** for $3x(x-2a)$ or $-ay(x-2a)$ or $ay(2a-x)$ or $x(3x-ay)$ or $2a(-3x+ay)$ or $-2a(3x-ay)$

97. 0607_w19_ms_23 Q: 9

Question	Answer	Marks	Partial Marks
(a)	$x<-2$	2	**B1** for $x=$ or $\leqslant$ or $\geqslant -2$ or **M1** for $-2-6>7x-3x$ oe
(b)	Line/arrow from –2 to left with empty circle at –2	1	**FT** from *their* inequality in **(a)**

98. 0607_w19_ms_23 Q: 11

Question	Answer	Marks	Partial Marks
	$67+42\sqrt{2}$	3	**B2** for $a+42\sqrt{2}$ or $67+b\sqrt{2}$ or **M1** for $3\sqrt{2}\times3\sqrt{2}+21\sqrt{2}+21\sqrt{2}+49$ or better

99. 0607_s18_ms_21 Q: 3

Question	Answer	Marks	Partial Marks
	$[x=]$ 1 $[y=]$ –2	2	**B1** for each If 0 scored **SC1** for correct substitution and evaluation to find the other variable

100. 0607_s18_ms_21 Q: 5

Question	Answer	Marks	Partial Marks
	$(n-2)^2$ oe	2	**M1** for a quadratic expression

101. 0607_s18_ms_21 Q: 6

Question	Answer	Marks	Partial Marks
(a)	$2p^2-5pq-7q^2$ final answer	2	**B1**for three terms of $2p^2-7pq+2pq-7q^2$ correct
(b)	$(1-a)(2-t)$ oe	2	**M1** for $2-t-a(2-t)$ or $2(1-a)-t(1-a)$

102. 0607_s18_ms_21 Q: 9

Question	Answer	Marks	Partial Marks
(a)	9	1	
(b)	$6h^{15}$	2	**B1** for kh^{15} or $6h^k$

103. 0607_s18_ms_21 Q: 13

Question	Answer	Marks	Partial Marks
	$\frac{t}{3+t}$ final answer	3	**B1** for $t(3-t)$ **B1** for $(3-t)(3+t)$

104. 0607_s18_ms_22 Q: 5

Question	Answer	Marks	Partial Marks
	4	2	**M1** for correctly moving at least one term

105. 0607_s18_ms_22 Q: 7

Question	Answer	Marks	Partial Marks
	$x<-2$	2	**M1** for $3x<1-7$

106. 0607_s18_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
(a)	–3	1	
(b)	$17-4n$ oe	2	**B1** for $17-kn$, $k\neq 0$ or $k-4n$

107. 0607_s18_ms_22 Q: 15

Question	Answer	Marks	Partial Marks
	$15x^2 - 34xy + 15y^2$ final answer	3	**M2** for $15x^2 - 9xy - 25xy + 15y^2$ or **M1** for 3 correct terms

108. 0607_s18_ms_22 Q: 17

Question	Answer	Marks	Partial Marks
	$(2x - 3y)(2x + y)$ final answer	3	**M2** for $(ax + by)(cx + dy)$ where $ac = 4$ and $bd = -3$ or **M1** for $ac = 4$ or $bd = -3$ OR **M2** for $2x(2x - 3y) + y(2x - 3y)$ or $2x(2x + y) - 3y(2x + y)$ or **M1** for $4x^2 - 6xy + 2xy - 3y^2$ oe

109. 0607_s18_ms_22 Q: 18

Question	Answer	Marks	Partial Marks
	$\frac{4n}{n^2 - 1}$ or $\frac{4n}{(n-1)(n+1)}$ final answer	4	**M1** for common denominator $(n-1)(n+1)$ or $n^2 - 1$ **M2** for $(n^2 + 2n + 1) - (n^2 - 2n + 1)$ or better or **M1** for $(n+1)^2$ or $(n-1)^2$ oe

110. 0607_s18_ms_23 Q: 3

Question	Answer	Marks	Partial Marks
	$16x + 3y$ final answer	2	**M1** for $10x + 15y$ or $-12y + 6x$

111. 0607_s18_ms_23 Q: 10

Question	Answer	Marks	Partial Marks
	$x \leqslant -4$ oe	2	**M1** for correctly moving one term

112. 0607_w18_ms_21 Q: 5

Question	Answer	Marks	Partial Marks
	4	2	**M1** for $6x = 19 + 5$ or $x - \frac{5}{6} = \frac{19}{6}$

113. 0607_w18_ms_21 Q: 9

Question	Answer	Marks	Partial Marks
	$25x^8y^6$	**2**	**M1** for '2 correct parts'

114. 0607_w18_ms_21 Q: 10

Question	Answer	Marks	Partial Marks
	–2, –1, 0, 1, 2	**2**	**M1** for 1 omission or 1 extra

115. 0607_w18_ms_21 Q: 12

Question	Answer	Marks	Partial Marks
	61 $2n^2 - 11$	**3**	**B1** for 61 **M1** for $an^2 + b, \quad a \neq 0$

116. 0607_w18_ms_21 Q: 14

Question	Answer	Marks	Partial Marks
	$[x =]$ 2 $[y =] -1$	**4**	**M1** for correctly equating one set of coefficients or **M1** for equation $x =$ or $y =$ from one equation **M1** for correct substitution into other equation **A1** for one correct value If 0 scored **SC1** for correct substitution into one of original equations and evaluation

117. 0607_w18_ms_21 Q: 15

Question	Answer	Marks	Partial Marks
	$(4x + 1)(x - 2)$	**2**	**M1** for $(ax \pm b)(cx \pm d)$ where two of $ac = 4$, $bd = -2$, $ad + bc = -7$ are correct. or **M1** for $4x(x - 2) + x - 2$ or $x(4x + 1) - 2(4x + 1)$

118. 0607_w18_ms_22 Q: 7

Question	Answer	Marks	Partial Marks
(a)	$(8x + 1)(8x - 1)$	**1**	
(b)	$(2y + 3)(y - 2)$	**2**	**B1** for $(2y + a)(y + b)$ where $ab = -6$ or $a + 2b = -1$ or $2y(y - 2) + 3(y - 2)$ or $y(2y + 3) - 2(y + 3)$

119. 0607_w18_ms_22 Q: 8

Question	Answer	Marks	Partial Marks
(a)	–4	1	
(b)	2.5 oe	1	

120. 0607_w18_ms_22 Q: 10

Question	Answer	Marks	Partial Marks
	$x \geqslant 6$	3	**B2** for $\leqslant$, <, >, = or **M2** for $9 + 3 \leqslant 6x - 4x$ or **M1** for $4x + 9 \leqslant 6x - 3$ or $\frac{4x}{3} + 3 = 6x - 3$

121. 0607_w18_ms_22 Q: 13

Question	Answer	Marks	Partial Marks
	$37 + 20\sqrt{3}$	3	**B2** for $37 + a\sqrt{3}$ or $b + 20\sqrt{3}$, $a, b \neq 0$ or **M1** for $5^2 + 10\sqrt{3} + 10\sqrt{3} + 2\sqrt{3} \times 2\sqrt{3}$

122. 0607_w18_ms_23 Q: 2

Question	Answer	Marks	Partial Marks
	9	2	**B1** for correct equation in form $ax = b$ or $b = ax$

123. 0607_w18_ms_23 Q: 3

Question	Answer	Marks	Partial Marks
	$-3 < x \leqslant 2$	1	

124. 0607_w18_ms_23 Q: 7

Question	Answer	Marks	Partial Marks
	$[t =] -1$ $[u =] 2$	2	**B1** for each If 0 scored, **SC1** for *their* answers satisfying one equation.

125. 0607_w18_ms_23 Q: 8

Question	Answer	Marks	Partial Marks
(a)	$36v^{15}$	2	**B1** for $36v^{k}$ or kv^{15}
(b)	$1000x^{150}$	2	**B1** for $1000x^{k}$ or kx^{150}

126. 0607_w18_ms_23 Q: 15

Question	Answer	Marks	Partial Marks
	$\frac{9x+26}{(x-1)(2x+3)}$ final answer	3	**M1** for denominator $(x-1)(2x+3)$ **B1** for $7(2x+3)-5(x-1)$ oe seen or **SC2** for final answer $\frac{9x+16}{(x-1)(2x+3)}$ If expanded denominator must be $2x^2+x-3$

127. 0607_s17_ms_21 Q: 3

Question	Answer	Marks	Part Marks
	x^4-4x^2	2	**M1** for either term correct

128. 0607_s17_ms_21 Q: 9

Question	Answer	Marks	Part Marks
	$[x=]1.5$ $[y=]-2$	3	**M1** for correct method to eliminate one variable **B1** for $x=1.5$ **B1** for $y=-2$ If 0 scored **SC1** for correct substitution into one of original equations and correct evaluation to find other variable

129. 0607_s17_ms_21 Q: 12

Question	Answer	Marks	Part Marks
	$x=\frac{7}{2}$, -1 oe	3	**M2** for $(2x-7)(x+1)$ or **M1** for $(2x+a)(x+b)$ where $a+2b=-5$ or $ab=-7$ or **M1** for $2x(x+1)-7(x+1)$ or $x(2x-7)+1(2x-7)$

130. 0607_s17_ms_21 Q: 15

Question	Answer	Marks	Part Marks
	$8x^2 - 26xy + 15y^2$ final answer	3	**M2** for $8x^2 - 6xy - 20xy + 15y^2$ or **M1** for 3 terms correct

131. 0607_s17_ms_22 Q: 3

Question	Answer	Marks	Partial Marks
	$2x(3x - 1)$ final answer	2	**B1** for $2(3x^2 - x)$ or $x(6x - 2)$

132. 0607_s17_ms_22 Q: 5

Question	Answer	Marks	Partial Marks
	$5x + 2$ final answer	2	**B1** for $ax + 2$ or $5x + b$

133. 0607_s17_ms_22 Q: 7

Question	Answer	Marks	Partial Marks
(a)	$x \leqslant 4$ or $4 \geqslant x$	2	**M1** for $2 + 6 \geqslant 5x - 3x$ oe If 0 scored, **SC1** for $x = 4$, $x < 4$, $x > 4$, $x \geqslant 4$
(b)	Correct **FT** from(a) on number line	1	**FT** dep on inequality as answer to (a)

134. 0607_s17_ms_22 Q: 10

Question	Answer	Marks	Partial Marks
	$6x^2 - 17xy + 12y^2$ final answer	3	**B2** for $6x^2 - 8xy - 9xy + 12y^2$ or **B1** for 3 terms correct

135. 0607_s17_ms_23 Q: 4

Question	Answer	Marks	Part Marks
(a)	-1	1	
(b)	$-4n + 19$ oe	2	**B1** for $-4n + k$ or $pn + 19$, $p \neq 0$

136. 0607_s17_ms_23 Q: 5

Question	Answer	Marks	Part Marks
	$x^5 + 3x^3$ final answer	2	**B1** for $x^5 + kx^n$ or $kx^n + 3x^3$, $k \neq 0$

137. 0607_s17_ms_23 Q: 8

Question	Answer	Marks	Part Marks
(a)	$4y^6$	2	**B1** for ky^6 or $4y^k$
(b)	$32w^{10}$	2	**B1** for kw^{10} or $32w^k$

138. 0607_s17_ms_23 Q: 10

Question	Answer	Marks	Part Marks
	0.5 oe	2	**M1** for $x + 1 = 2 - x$ or for correctly eliminating x

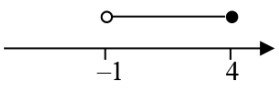
139. 0607_s17_ms_23 Q: 14

Question	Answer	Marks	Part Marks
(a)	$(p-6)(p+5)$	2	**B1** for $(p+a)(p+b)$ where $ab = -30$ or $a + b = -1$ or $p(p+5) - 6(p+5)$ or $p(p-6) + 5(p-6)$
(b)	$(u-v)(x+y)$	2	**M1** for $x(u-v) + y(u-v)$ or $u(x+y) - v(x+y)$

140. 0607_s17_ms_23 Q: 15

Question	Answer	Marks	Part Marks
	$\frac{16}{1000}$ oe	3	**M1** for $y = \frac{k}{x^3}$ oe **M1** for substituting $x = 2$ and $y = 2$ in *their* equation to find k

141. 0607_w17_ms_21 Q: 3

Question	Answer	Marks	Partial Marks
		2	**B1** for correct interval indicated

142. 0607_w17_ms_21 Q: 5

Question	Answer	Marks	Partial Marks
	$x = -5$ $y = -3$	3	**M1** for correctly eliminating one variable **B1** for each answer If zero scored **SC1** for correct substitution and evaluation to find the other variable

143. 0607_w17_ms_21 Q: 11

Question	Answer	Marks	Partial Marks
(a)	$(x-5)(x+2)$	2	**B1** for $(x+a)(x+b)$ where $ab=-10$ or $a+b=-3$ or for $x(x-5)+2(x-5)$ or $x(x+2)-5(x+2)$
(b)	$x<-2,\ x>5$	2	**B1FT** for correct 'inequalities' from (a)

144. 0607_w17_ms_21 Q: 13

Question	Answer	Marks	Partial Marks
	$6a^2-19ab+15b^2$ final answer	3	**B2** for $6a^2-9ab-10ab+15b^2$ or **B1** for 3 correct terms above

145. 0607_w17_ms_22 Q: 11

Question	Answer	Marks	Partial Marks
(a)	$3x^8$	2	**B1** for $3x^k$ or kx^8, $k\neq 0$
(b)	$2x^4$	2	**B1** for $2x^k$ or kx^4, $k\neq 0$

146. 0607_w17_ms_22 Q: 14

Question	Answer	Marks	Partial Marks
	$\frac{x}{x+1}$ final answer	3	**B1** for $x(x-1)$ **B1** for $(x-1)(x+1)$

147. 0607_w17_ms_23 Q: 8

Question	Answer	Marks	Partial Marks
	3	3	**M2** for $\frac{90}{45-15}$ or **M1** for correct first step

148. 0607_w17_ms_23 Q: 10

Question	Answer	Marks	Partial Marks
	8, –3	3	**M2** for $(x-8)(x+3)$ oe or **M1** for $(x+a)(x+b)$ where $ab=-24$ or $a+b=-5$

149. 0607_w17_ms_23 Q: 15

Question	Answer	Marks	Partial Marks
	$5(x-5y)(x+5y)$ final answer	3	**M2** for $(5x-25y)(x+5y)$ or $(5x+25y)(x-5y)$ or **M1** for one correct factor identified