6.2 Answers (Revision for The Test)

GCSE Mathematics
Algebraic Fractions

Answer 1

(a) $7(p-3)$ **(b)** -2

[1, 2 marks]

Answer 2

$$\begin{aligned} \text{LHS} &= \frac{5}{6} - \frac{3}{4} && \text{LCM}\{6,\ 4\} = 12 \\ &= \frac{2}{2} \times \frac{5}{6} - \frac{3}{4} \times \frac{3}{3} \\ &= \frac{10}{12} - \frac{9}{12} \\ &= \frac{1}{12} \\ &= \text{RHS} && \square \end{aligned}$$

[2 marks]

Answer 3

(a) **(i)** p^6 **(ii)** q^2

[1, 1 marks]

(b) $4x + 9$

[2 marks]

(c) $y^2 + 8y + 15$

[2 marks]

Answer 4

(a) 2^9 **(b)** 3^5 **(c)** $n = 13$

[1, 1, 2 marks]

Answer 5

(a) $3b(3a - 4b)$ **(b)** $8a^3b^6$

[2, 2 marks]

Answer 6

(a) $81a^8b^4$ **(b)** $3c^4$

[2, 2 marks]

Answer 7

(a) $(x-2)(x-6)$ **(b)** $(x+9)(x-9)$

[2, 1 marks]

Answer 8

$$\frac{x+11}{x+6}$$

[2 marks]

Answer 9

$$\frac{x}{x-5}$$

[3 marks]

Answer 10

(i) $\dfrac{112x+67}{15}$ **(ii)** $\dfrac{13x+50}{12}$

[3, 3 marks]

Answer 11

$$\frac{12x+41}{(x+4)(x+3)}$$

[3 marks]

Answer 12

$$\begin{aligned}
\text{LHS} &= \frac{3}{(x+6)} + \frac{5}{(x-10)} \\
&= \frac{(x-10)}{(x-10)} \times \frac{3}{(x+6)} + \frac{5}{(x-10)} \times \frac{(x+6)}{(x+6)} \\
&= \frac{3x-30+5x+30}{(x+6)(x-10)} \\
&= \frac{8x}{(x+6)(x-10)} \\
&= \text{RHS} \qquad \square
\end{aligned}$$

[3 marks]

Answer 13

(a) $\dfrac{x}{x-5}$ **(b)** $\dfrac{8x+36}{(2x+3)(2x-9)}$

[2, 4 marks]

Answer 14

$x = 11$

[4 marks]

Answer 15

$x = -\dfrac{8}{3} \qquad (-2.67)$

[3 marks]

Answer 16

$x = -2,\ 15$

[4 marks]