

Q Algebraic Fractions: Multiplying/Dividing and Quadratics

19 Write as a single fraction in its simplest form.

(a) $\frac{5a}{6} \times \frac{3b}{a}$

..... [2]

10 Simplify.

$$\frac{p}{2q} \times \frac{4pq}{t}$$

..... [2]

3 Simplify fully.

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

..... [2]

(b) Simplify $\frac{a}{x} \div \frac{b}{2y}$.

Give your answer as a single fraction.

..... [1]

15 Simplify.

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

..... [2]

(b) Simplify.

$$\frac{x-5}{x^2-25}$$

..... [2]

23 Simplify.

$$\frac{2x^2+10x}{x^2-25}$$

..... [3]

19 Simplify.

$$\frac{7x - x^2}{49 - x^2}$$

..... [3]

22 Simplify.

$$\frac{5x - x^2}{25 - x^2}$$

..... [3]

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

..... [3]

22 Simplify.

$$\frac{x^2 - 5x}{2x^2 - 50}$$

..... [4]

21 Simplify.

$$\frac{5p^2 - 20p}{2p^2 - 32}$$

..... [3]

20 Write as a single fraction in its simplest form.

(a) $\frac{10x^2 - 60x}{x^2 - x - 30}$

..... [3]

7 (a) Simplify.

$$\frac{x^2 - 25}{x^2 - x - 20}$$

..... [3]

24 Simplify.

$$\frac{x^2 - 25}{x^2 - 17x + 60}$$

..... [4]

18 Simplify.

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

..... [4]

23 Simplify.

$$\frac{5x^2 - 19x + 12}{x^2 - 9}$$

..... [4]

21 Simplify.

$$\frac{2x^2 + 5x - 12}{4x^2 - 9}$$

..... [4]

22 Simplify.

$$\frac{2x^2 - 5x - 12}{3x^2 - 12x}$$

..... [4]

(b) Write as a single fraction in its simplest form.

$$\frac{4}{2x-3} \div \frac{2x^2+14x}{2x^2+11x-21}$$

..... [4]

(b) (i) Factorise.

$$x^2 - 9$$

..... [1]

(ii) Simplify.

$$\frac{x^2 - 9}{2xy - 6y + 5x - 15}$$

..... [3]

11 Simplify.

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

..... [3]

24 Simplify.

$$\frac{ax - 2a - x + 2}{a^2 - 1}$$

..... [4]

23 Simplify.

$$\frac{3xy + 36y - 5x - 60}{2x^2 - 288}$$

..... [4]

17 Simplify.

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

..... [4]

26 Simplify.

$$\frac{ux - 2u - x + 2}{u^2 - 1}$$

..... [4]

15 Simplify.

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

..... [3]

(d) Simplify.

$$\frac{2x-1-4ax+2a}{2x^2-x}$$

..... [4]

25 Simplify.

$$\frac{2x^2 + x - 15}{ax + 3a - 2bx - 6b}$$

..... [5]

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

..... [5]