2.9 – Algebraic fractions

Student name: _____ Score: _____

1. Simplify fully $\frac{3a}{a^2-9} \div \frac{a}{a-3}$.

Answer ..... [3]

2. Write $\frac{3}{x+2} - \frac{5}{2x+3}$ as a single fraction in its simplest form.

Answer ..... [3]

3. Write $1-\frac{1}{x-1}$ as a single fraction.

Answer ..... [2]

4. Write as a single fraction, simplifying your answer.

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

Answer(b) ..... [3]

5. Simplify $\frac{3y-y^2}{9-y^2}$.

Answer(b) ..... [2]

6. Simplify fully.

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

..... [3]

7. Write as a single fraction in its simplest form.

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

..... [4]

8. Simplify.

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

..... [3]

9. Simplify.

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

..... [3]

10. Write as a single fraction in its simplest form.

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

..... [3]

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

..... [3]

12. Write as a single fraction in its simplest form.

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

..... [2]

13. Simplify.

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

..... [3]

14. Write as a single fraction in its simplest form.

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

..... [3]

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

..... [4]

16. Simplify fully.

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

..... [2]

17. Simplify.

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

..... [4]

18. Simplify.

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

..... [4]

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

Find the values of a, b and c.

$a =$ .....

$b =$ .....

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

20. Simplify.

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

..... [3]

21. Simplify.

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

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

..... [3]