ILLAWARRA TUTORING

In this worksheet you will learn techniques to simplify algebraic fractions. You are expected to factorise expressions where necessary and cancel common factors to simplify the fractions.

Easy Questions

1. Simplify the algebraic fraction $\dfrac{4x}{8}$.

2. Simplify the algebraic fraction $\dfrac{6y}{9}$.

3. Simplify the algebraic fraction $\dfrac{10a}{15}$.

4. Simplify the algebraic fraction $\dfrac{12m}{20}$.

5. Simplify the algebraic fraction $\dfrac{9n}{27}$.

Intermediate Questions

6. Simplify the algebraic fraction $\dfrac{2x^2}{4x}$.

7. Simplify the algebraic fraction $\dfrac{6x^2y}{9xy}$.

8. Simplify the algebraic fraction $\dfrac{4x^2 - 8x}{2x}$.

9. Simplify the algebraic fraction $\dfrac{12x + 18}{6}$.

10. Simplify the algebraic fraction $\dfrac{3x^2 + 6x}{3x}$.

11. Simplify the algebraic fraction $\dfrac{5x^2 - 10x}{5x}$.

12. Simplify the algebraic fraction $\dfrac{8x^2 + 12x}{4x}$.

13. Simplify the algebraic fraction $\dfrac{9x^2 - 3x}{3x}$.

14. Simplify the algebraic fraction $\dfrac{6x^2 + 9x}{3x}$.

15. Simplify the algebraic fraction $\dfrac{x^2 + 5x}{x}$.

16. Simplify the algebraic fraction $\dfrac{6x^3 - 12x^2}{6x^2}$.

17. Simplify the algebraic fraction $\dfrac{9x^3 + 3x^2}{3x^2}$.

18. Simplify the algebraic fraction $\dfrac{4x^2 - 8x}{2x}$.

19. Simplify the algebraic fraction $\dfrac{2x^2 + 6x}{4x}$.

20. Simplify the algebraic fraction $\dfrac{8x^2 - 4x}{4x}$.

Hard Questions

21. Simplify the algebraic fraction $\dfrac{2x^2 - 8x}{4x - 16}$.

22. Simplify the algebraic fraction $\dfrac{x^2 - 9}{x^2 - 6x + 9}$.

23. Simplify the algebraic fraction $\dfrac{x^3 - 4x^2}{x^2 - 4x}$.

24. Simplify the algebraic fraction $\dfrac{4x^3 - 16x^2}{2x^2 - 8x}$.

25. Simplify the algebraic fraction $\dfrac{2x^2 + 3x - 2}{x + 2}$.

26. Simplify the algebraic fraction $\dfrac{x^3 + 2x^2 - 3x}{x^2 - x}$.

27. Simplify the algebraic fraction $\dfrac{4x^2 - 10x}{2x - 5}$.

28. Simplify the algebraic fraction $\dfrac{9x^3 - 3x^2}{3x}$.

29. Simplify the algebraic fraction $\dfrac{4x^2 - 10x}{2x - 5}$.

30. Simplify the algebraic fraction $\dfrac{8x^3 + 4x^2 - 12x}{4x}$.