

Revision Sheet 1 - Algebra 1 (Chap 1)

Review: Fri 5/10/18

Q1. Factorise $45a^2 - 20$	Q2. Show that $(2x - 3)$ is a factor of $2x^3 - 5x^2 + x + 3$.
Q3. Simplify $\frac{2x^2 - 7x - 4}{3x^2 - 13x + 4}$	Q4. Factorise $3x^2 - 27y^2$
Q5. Factorise $5x^3 + 40y^3$	Q6. Simplify $\frac{x^2 + 4}{x^2 - 4} - \frac{x}{x + 2}$
Q7. Factorise $12x^2 - 17xy + 5y^2$	Q8. Simplify $\frac{5}{x^2 - 3x - 10} - \frac{3}{x + 2}$
Q9. Show that $(2x - 3)$ is a factor of $2x^3 - 5x^2 + x + 3$.	Q10. Simplify $\frac{x^2 - 2x - 15}{x + 5} \div \frac{x^2 - 9x + 20}{3x + 15}$
Q11. Simplify $\frac{5 - \frac{1}{2x - 1}}{3 + \frac{1}{2x + 1}}$	Q12. Simplify $\frac{x^2 - 36}{5x - 10} \times \frac{x - 2}{x + 6}$
Q13. Factorise $x^4 - y^4$	Q14. Show that $(x - 2)$ is a factor of $x^3 - 5x^2 + 8x - 4$ and find the other two factors.
Q15. Simplify $\frac{4x + 6}{x^2 + 2x - 35} \times \frac{x - 5}{2x + 3}$	Q16. Simplify $\frac{\frac{1}{3x} - 1}{\frac{1}{x} - 3}$

Answers:

Q1. $5(3a - 2)(3a + 2)$	Q3. $\frac{2x + 1}{3x - 1}$
Q4. $3(x - 3y)(x + 3y)$	Q5. $5(x + 2y)(x^2 - 2xy + 4y^2)$
Q6. $\frac{2}{x - 2}$	Q7. $(12x - 5y)(x - y)$
Q8. $\frac{20 - 3x}{(x + 2)(x - 5)}$	Q10. $\frac{3x + 9}{x - 4}$
Q11. $\frac{10x^2 - x - 3}{6x^2 + x - 2}$	Q12. $\frac{x - 6}{5}$
Q13. $(x - y)(x + y)(x^2 + y^2)$	Q14. $(x - 2)$ and $(x - 1)$
Q15. $\frac{2}{x + 7}$	Q16. $\frac{1}{3}$