

Calculus — Problem Set 1

2. Quantities A and B are equal: **C**

4. **A**

6. $\frac{a^3 + 2a}{a^2 + 1}$

8. $\frac{x^2 y^2 + x + m^2 x}{y + m^2 y}$

10. $x^{\frac{3a}{2}} y^{a+1}$

12. $x^{\frac{7}{6}} y^{-1}$

14. $(a - 2b)(a + 2b)(x - 1)$

16. $ab^{2x+1}(ab - 1)$

18. $(a^2 - 3bc)(a^4 + 3a^2bc + 9b^2c^2)$

20. 495

22. 12

24. $4\pi \text{ m}^2$

Calculus — Problem Set 2

2. $y = 5$

4. $y = \frac{4}{3}x - \frac{7}{3}$

6. $x = \frac{3}{2}, 1$

8. $2x^2 + 6x + 15 + \frac{50}{x - 3}$

10. $x \approx -3.3028$ and 0.3028

12. (0.776, -0.726)

14. $\frac{adt x + amx}{bdt + bm + ct}$

16. $y^{3a-1} z^{\frac{11a}{3}-2}$

18. (1, 2, 1)

20.

$(xy^2 - 2x^2y^4)(x^2y^4 + 2x^3y^6 + 4x^4y^8)$

22. 8

24. $5\sqrt{3}m^3 \approx 8.6603m^3$