Homework 20

Solve:

Simplify	Solve:	Make r the subject:
1. $\sqrt{t^3} \times \sqrt{t^3}$	8. $p^6 \times p^n = p^2$	15. $A = \pi r^2$
2. $(3x + k)(3x - k)$	9. $(x + 5)(4x + 3) = 0$	16. $\dfrac{1}{r} + 2 = \dfrac{3a}{7}$
3. $\sqrt{16t^6}$	10. $25x - 15 = 0$	17. $y = \dfrac{3a}{r+5}$
4. $\sqrt{0.01t^3}$	11. $\left(\dfrac{10}{x}\right)^3 = 27$	18. $y = \dfrac{2r^3}{5}$
5. $\dfrac{1-x}{x-1}$	12. $x^3 = 80x + 2x^2$	19. $5x^3 = \sqrt{r}$
6. $\dfrac{x^2 + 2x + 1}{x^2 - 1}$	13. $(2x + 5)(9 - x) = 0$	20. $k = \sin(r)$
7. $\dfrac{2x - x^2}{x-2}$	14. Solve for n and k: $(x+2)(x+n)$ $= x^2 + 7x + k$	21. $k = 2r + \pi r$

Proofs

22.   Prove that the sum of any four consecutive numbers added is even.

23.   If $t_n = 4n + n^2$ show that the difference from the nth to next terms is $2n + 5$

24.   Show that h is never negative if $h = x^2 - 8x + 17$