MAC1105 # *Power Functions and Radical Equations* *Instr: Jamieson*

Rockswold 4.7 *8/2/2010*

1. $\sqrt{x+14}-2=x$

2. $\sqrt{x+18}+2=x$

3. $\sqrt{x+18}+x=2$

4. $\sqrt{x+23}-3=x$

5. $\sqrt{27x+109}-3=x$

6. $\sqrt{7x+116}+x=4$

7. $\sqrt{7x+116}+4=x$

8. $\sqrt{89x+125}+5=x$

9. $\sqrt{9x^2-12}+5=3x$

10. $\sqrt{4x^2-3}+2=2x$

11. $\sqrt{x^2-5}+1=x$

12. $\sqrt{x^2-12}+2=x$

13. $\sqrt{x^2+x-15}+2=x$

14. $\sqrt{3x^2+17x+35}-x=x+5$

15. $\sqrt{9x+18}=x+2$

16. $\sqrt{3x+19}-3=x$

17. $\sqrt{8x^2+11x+15}-x=2x+1$

18. $\sqrt{3x^2+11x+15}-3=2x$

19. $\sqrt{13x+30}-x=4$

20. $\sqrt{4x^2+x-25}-x+1=x$

21. Write $\dfrac{x^3+3x^4+5\sqrt{x}}{x^3}$ using powers of x, no ratios, no radicals.

a. $3x + 5x^{-3.5}$ **b**. $1 + 3x^4 + 5x^{0.5}$ **c**. $1 + 3x + 5x^{-2.5}$ **d**. $1 + 3x + 5x^{-3.5}$

Answers:

1. 2
2. 7
3. –2
4. 2
5. 25
6. -5
7. 20
8. 100
9. 37/30 (doesn't check)
10. 7/8 (doesn't check)
11. 3
12. 4
13. 19/6
14. 2
15. $\sqrt{9x+18} = x+2$

$9x + 18 = x^2 + 4x + 4$ $x^2 - 5x - 14 = (x - 7)(x + 2) = 0$ $x = 7, -2$

16. 2
17. 7
18. 2
19. 7
20. 26/5
21. c