Homework: PreRequisite Review after unit 4

Show your work for the following problems.

Simplify each completely. Circle your answers.

1. $\sqrt{x+4} \cdot \sqrt{x+4}$

2. $(\sqrt{x+4})^2$

3. $\sqrt{(x+4)^2}$

4. The answers to #1-3 should be the same. Why is that the case?

5. $\sqrt{x+h} \cdot \sqrt{x+h}$

6. $(\sqrt{x+h})^2$

7. $\sqrt{(x+h)^2}$

8. The answers to #5-7 should be the same. Why is that the case?

9. $\sqrt{x+7} + \sqrt{x+7}$

10. $2\sqrt{x+7} + \sqrt{x+7}$

11. $\sqrt{x+h+7} \cdot \sqrt{x+7} - \sqrt{x+h+7} \cdot \sqrt{x+7}$

12. Problems #9-11 involved combining "_____" terms.

Simplify the following products.

13. $(x-3)(x+3)$

14. $(x+4)(x-4)$

15. $(\sqrt{x}-3)(\sqrt{x}+3)$

16. $(\sqrt{x}+4)(\sqrt{x}-4)$

17. What is special about the questions in problems #12-16 that causes an interesting product for their answers?

Simplify the following.

18. $\dfrac{x}{4} + \dfrac{5x}{3}$

19. $\dfrac{4}{x} + \dfrac{3}{x-5}$

20. $\dfrac{4}{x} - \dfrac{3}{x-5}$

21. To add or subtract fractions, you must first find a _____ _____.

Find f(x + h) for the following... Simplify completely!

22. $f(x) = -5x$

23. $f(x) = 4x - 7$

24. $f(x) = x^2$

25. $f(x) = x^2 + 5x$

Find f(x + h) – f(x) for the following... Simplify completely!

26. $f(x) = -5x$

27. $f(x) = 4x - 7$

28. $f(x) = x^2$

29. $f(x) = x^2 + 5x$