

This packet will be your first graded assignment, due the first day of class.

1. Solve: $\left|11 - \frac{x}{5}\right| = 4$ 1. _____

2. Solve: $|2p + 3| < 17$ 2. _____

3. Solve: $u - 3 < 2u < u + 1$ 3. _____

4. Solve: $7(2x - 6) - 14x = -42$ 4. _____

5. Write an equation in standard form of a line with a slope of -3 and a y-intercept of 4. 5. _____

6. Factor: $3ab - 2 + 2b - 3a$ 6. _____

7. Factor: $12x^3 - 3x$ 7. _____

8. Solve: $x^3 - x^2 - 3x \leq 0$ 8. _____

9. Simplify: $\frac{\frac{1}{x+y}}{\frac{1}{x} + \frac{1}{y}}$ 9. _____

10. Express $f(f(x))$ as a simplified fraction as a simplified fraction $f(x) = \frac{x}{x+1}$ 10. _____

11. Solve: $\frac{x^2}{6} + \frac{1}{8} = \frac{x}{3}$ 11. _____

12. Solve: $\frac{2}{x} + \frac{1}{x-2} = 1$ 12. _____

13. Simplify: $\sqrt[3]{40}$ 13. _____

14. Simplify: $\sqrt{\frac{4}{5x^5}}$ 14. _____

15. Simplify: $\sqrt{50} + \sqrt{18} - \sqrt{54}$ 15. _____

16. Simplify: $\frac{10}{2\sqrt{3}-\sqrt{7}}$ 16. _____

17. Solve: $36x^{-4} - 5x^{-2} - 1 = 0$ 17. _____

18. Simplify: $\frac{7^{3\sqrt{2}}}{49}$ (not a decimal answer) 18. _____

19. Solve: $3^{-(x+5)} = 9^{4x}$ 19. _____

20. Solve: $\sqrt{x-5} + 7 = x$ 20. _____

21. Solve: $\sqrt{3x-2} - \sqrt{2x+5} = 1$ 21. _____

22. Simplify: $(7 + 2i) - (5 - 3i)$ 22. _____

23. Find the roots: $9x^2 + 8 = 0$ 23. _____

24. Simplify: $(x^2 - x + 6)(x + 2)^{-2}$ 24. _____

25. Simplify: $(1 + i)^3$ 25. _____