

$$1. \frac{4(2x+h-5)^{-1} - 4(2x-5)^{-1}}{(x+h) - x} =$$

$$2. \text{ By hand, with no calculator, simplify } \left| -2^4 + \left(\frac{-27}{125} \right)^{\frac{-2}{3}} \right| + 36 \div 2 \cdot 3 - (-3(2x-1)^2).$$

$$3. \frac{\frac{1}{2} \left(\frac{5x^2}{3x} \right) \cdot (x-2)}{4 \left(\frac{5x^2 - 20}{x+6} \right)} =$$

4. If $z = -7 + 2i$, what is the product of 3, the real part, and the imaginary part?

5.
$$\frac{\frac{x-1}{4}}{x^2 - \frac{3}{6x}} =$$

6. $(\overline{3i-7})(i^2 + 8i) =$

7. $|10 - 2\sqrt{-81}| =$

8. Show the absolute value of the sum $8+9i$ and $1-5i$ is less than or equal to the sum of their absolute values.

9. Solve by completing the square: $2x^2 - 1 = 3x$

10. Solve $6x^2 + 67x - 60 = 0$

11. Solve $x^{\frac{2}{3}} - 2x^{\frac{1}{3}} = 15$.

12. Solve $\frac{x}{x-5} + \frac{2}{x+2} = \frac{35x}{x^3 - 3x^2 - 10x}$.

13. Solve $3\sqrt{4x-40} + 5 + 3x = 32$

14. Solve $20 - |10x - 21 - x^2| = 16$

15. Solve for A in the formula $K = \pi[A + s(A + B) + C]^3$

16. Solve $9 - x < x + 6 < 4x - 7$

17. Solve $\left| \frac{12 - 8x}{-5} \right| - 7 \leq |-18|$