

1) On a separate sheet of paper solve each equation for x. Show all work! Answer the follow up questions.

a. $9 + \frac{1}{2}x = 14$

b. $(x - 6)(x + 1) \geq 0$

c. $(x + 1)(x - 6) = 4$

d. $2(5^x) = 250$

e. $2x^2 - 2x + 5 = 0$

f. $\log_3(2x + 6) = 5$

g. $|x + 10| - 7 > -5$

h. $2(4x - 8) = 8x + 14$

i. $x^3 - 2x + 5 = 4$

j. $16 = |-4 + 5x|$

k. $125^{9x-2} = 150$

l. $0 = (x - 5)(3x + 5)(x^2 - 7x + 15)$

m. $\frac{x-3}{x+5} = \frac{x}{x+2}$

n. $\ln(x) = 1 - x$

o. $\begin{cases} 3x^2 + 4x - y = 7 \\ 2x - y = -1 \end{cases}$

p. Evaluate $f(3) + f(-7) + f(8)$

$$f(x) = \begin{cases} 5 & \text{if } x < -2 \\ \frac{1}{2}x - 6 & \text{if } -2 \leq x \leq 6 \\ -2x + 10 & \text{if } x > 6 \end{cases}$$

2) When solving any equation what is the goal?

3) How can you use your calculator to help you solve equations?

4) How can you use answer choices on a multiple choice test to help you solve any equation?

1) On a separate sheet of paper solve each equation for x. Show all work! Answer the follow up questions.

a. $9 + \frac{1}{2}x = 14$

b. $(x - 6)(x + 1) \geq 0$

c. $(x + 1)(x - 6) = 4$

d. $2(5^x) = 250$

e. $2x^2 - 2x + 5 = 0$

f. $\log_3(2x + 6) = 5$

g. $|x + 10| - 7 > -5$

h. $2(4x - 8) = 8x + 14$

i. $x^3 - 2x + 5 = 4$

j. $16 = |-4 + 5x|$

k. $125^{9x-2} = 150$

l. $0 = (x - 5)(3x + 5)(x^2 - 7x + 15)$

m. $\frac{x-3}{x+5} = \frac{x}{x+2}$

n. $\ln(x) = 1 - x$

o. $\begin{cases} 3x^2 + 4x - y = 7 \\ 2x - y = -1 \end{cases}$

p. Evaluate $f(3) + f(-7) + f(8)$

$$f(x) = \begin{cases} 5 & \text{if } x < -2 \\ \frac{1}{2}x - 6 & \text{if } -2 \leq x \leq 6 \\ -2x + 10 & \text{if } x > 6 \end{cases}$$

2) When solving any equation what is the goal?

3) How can you use your calculator to help you solve equations?

4) How can you use answer choices on a multiple choice test to help you solve any equation?