GATEWAY – EQUATIONS AND INEQUALITIES
PRACTICE

NAME:_____ DATE:_____ COURSE:_____

Show your work.

(1) Solve for x: $x+5=3(x-2)$

(2) Solve for x: $ax-3=2b$

(3) Solve for x by factoring: $4x^2+4x-3=0$

(4) Solve for x: $\dfrac{(2x+13)(3x-5)}{x+7}=0$

(5) Solve for x: $\dfrac{(2x-1)(x+5)}{\sqrt{3-x}}=0$

(6) Solve for x by factoring out the common factor:

$$(x+2)^4(2x-3)-(x+2)^4(x+4)=0$$

(7) Solve for x by factoring out the common factor: $x^{-2}(x-7)+2x^{-3}(x+3)=0$

In problems (8), (9), and (10), solve the inequality, and write your answer in interval notation.

(8) $4-3x \le 6$

(9) $3 < 2x+1 \le 5$

(10) $-4 > 3-x > -9$