Trig/Precalc Final Prerequisite Review 1

Solve the equation by extracting the square roots.

1) $(3x+5)^2 = 121$

2) $3(v+2)^2 = 45$

Solve the inequality algebraically. Write the solution in interval notation.

3) $|x+5| \leq 8$

4) $|7x - 1| \geq 4$

Solve the inequality. Use algebra to solve the corresponding equation.

5) $x^2 + 7x \leq -12$

6) $x^2 - 4x - 21 > 0$

Solve the equation.

7) $\frac{5x-5}{5} + \frac{5x+4}{2} = 4$

Write the product in standard form.

8) $(2 - 7i)(5 - 5i)$

Find the product of the complex number and its conjugate.

9) $4 + \sqrt{3}\,i$

Simplify the expression. Assume that the variables in the denominator are nonzero.

10) $\left(\frac{2}{xy^2}\right)^{-2}$

11) $\frac{(x^{-4}y^3)^{-4}}{(y^3x^{-6})^{-5}}$

Use interval notation to describe the interval of real numbers.

12) $x \leq -6$

13) $-5 \leq x < -1$

Use a method of your choice to solve the equation.

14) $|3x - 11| = 2$

Solve the inequality.

15) $0 \leq 5t + 2 < 9$