

Precalc-Trig Prerequisite Chapter Test Review

Name _____ HR _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

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

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

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

Write the product in standard form.

3) $(5 + 8i)(5 + 2i)$

Find the product of the complex number and its conjugate.

4) $3 + 5i$

5) $4 - 5i$

Write the sum or difference in the standard form $a + bi$.

6) $(5 - 2i) + (4 + 4i)$

7) $(3 + 8i) - (-2 + i)$

Solve the inequality by graphing. Write answer in interval notation.

8) $x^2 - 4x < 12$

9) $3x^3 - 48x > 0$

Solve the inequality. Use algebra to solve. Write answer in interval notation.

10) $x^2 + 2x - 35 \geq 0$

Solve the problem.

- 11) If a rocket is propelled upward from ground level, its height in meters after t seconds is given by $h = -9.8t^2 + 58.8t$. During what interval of time will the rocket be higher than 78.4 m?

Solve the equation graphically by finding its zeros.

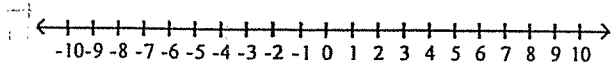
12) $x^3 + 9x^2 + 27x + 23 = 0$

Use a method of your choice to solve the equation.

13) $x^2 - 1 = |x + 2|$

Solve the inequality and draw a number line graph of the solution.

14) $2 < 3x - 2 < 10$



Solve by completing the square.

15) $x^2 = 9 - 4x$

Solve the equation.

16) $\frac{8x - 4}{4} + \frac{5x + 1}{5} = -\frac{1}{2}$

Solve the equation using the quadratic formula.

17) $x^2 - 12x + 45 = 0$

Write the expression in standard form.

18) $\frac{9 + 2i}{2 - 4i}$

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

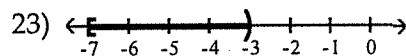
19) $\left(\frac{15a^6b^5}{ab^2} \right) \left(\frac{2b^2}{3a^3b^7} \right)$

For each of the following problems, write the 3 missing representations that match the one given. Recall that the 4 representations for inequalities are: words, interval notation, inequality notation, and a graph on a number line.

20) All numbers between -4 & 9

21) $x > 2$

22) $(-\infty, 1]$



For each problem below, state if the intervals are a) bounded or unbounded

b) closed, open, half-open

24) use #20 above

25) use #21 above

26) use #22 above

27) use #23