

Algebra 2 - Spiral Assignment #3

This assignment is graded based on correct answers. However, there must be work/process shown supporting your answer to receive credit.

Name: _____

Date: _____ Pd: _____

NO CALCULATOR

1)

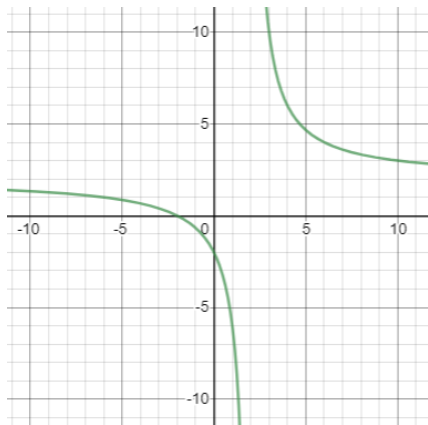
What is the expanded form of $3x(x + 3)^2$?

- A. $3x^3 + 27x$
 B. $3x^3 + 18x$
 C. $3x^3 + 18x^2 + 18x$
 D. $3x^3 + 18x^2 + 27x$

2) Divide using synthetic division: $\frac{x^3 - 2x^2 + 5x - 3}{x - 3}$

3) The graph for $y = \frac{2x + 4}{x - 2}$ is given. State the asymptotes. VA = _____ HA = _____

Then state the domain and range.



Domain (set): _____ Range (set): _____

4) Factor completely: $27x^3 - 64$ 5) State the end behavior of $y = 5x^2 - 2x^3$

$x \rightarrow -\infty$ as $y \rightarrow$ _____ and $x \rightarrow \infty$ as $y \rightarrow$ _____

6) Solve by factoring: $2x^2 - 3x - 7 = 1 + 3x$

7) Multiply and simplify: $(2 + 3i)(4 - i)$

8) State the x-intercepts: $x^3 - x^2 - 9x + 9 = 0$

X = _____

9) State the possible rational zeros $\left(\frac{p}{q}\right)$: $3x^3 - 5x^2 - 7x + 6 = 0$

PRZ's = _____

10)

Find the maximum real value of the function $y = -9x^2 - 18x - 2$.

(A) -1

(B) 7

(C) ∞

(D) No Maximum