

CHAPTER 2 “STUFF”

Use the function: $f(x) = x^2 - 8x + 10$ to find:

16) $f(-1)$

17) $f(11)$

18) $f(\sqrt{7})$

19) $f(2i)$

20) $f(3 + 2i)$

21) Its zeros

Use synthetic division to find:

22) The remainder for
 $(x^4 - 8x^2 + 5x - 1) \div (x + 3)$

23) The remaining roots for $6x^3 + 11x^2 - 4x - 4$
if $x = -2$ is one of the three.

Use the equation: $y = 2x^2 - 20x + 87$ and the formula $x = \frac{-b}{2a}$ to find:

24) The vertex
(or minimum coordinates)

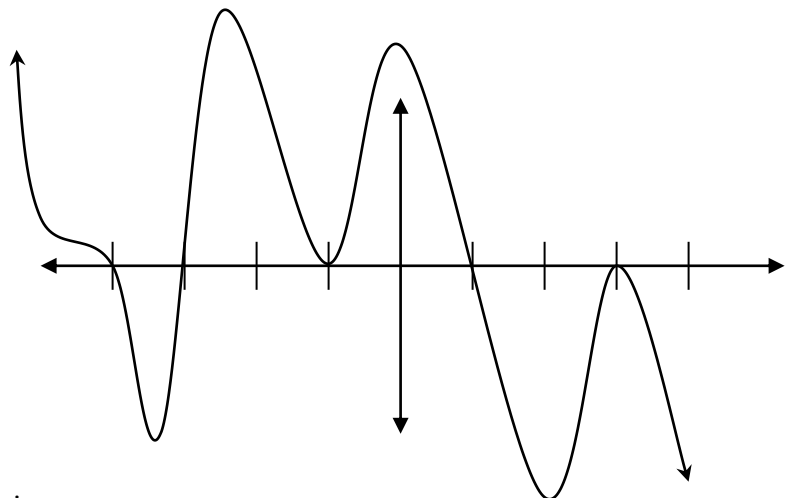
25) The axis of symmetry

26) Direction in which it
opens (up or down)?

Use the graph to the right
to determine:

27) The number of single, double and
triple roots.

28) One possible equation to represent
the graph.



29) The number (or “a”) that would need to begin
the equation for #28 if $(-2, 600)$ lies on the line.

Find the roots (or solutions) for each equation.

30) $n^2 - 15n + 56 = 0$

31) $\frac{q+2}{q} = \frac{q}{q-7}$

32) $8x^4 + 18x^2 = 5$

33) $y^4 - 4y^3 + 11y^2 - 28y + 28 = 0$

34) $3x^3 - 4x^2 - 27x + 36 = 0$

Write a quadratic equation given its roots. Use the formulas: sum $\frac{-b}{a}$ and product $\frac{c}{a}$

35) $\frac{5}{3}$ and -4

36) $2 \pm 9i$

37) $\frac{1 \pm 5\sqrt{3}}{2}$

CHAPTER 3 "STUFF"

Solve each inequality.

38) $8x - 5 < 6x + 33$

39) $\frac{z+12}{-5} \geq -7$

40) $|2b - 9| > 11$

41) $n(n+1)^2(n-3) \leq 0$

42) $x^3 - 2x^2 \geq 48$

43) $\frac{(x+5)^3}{(x-1)^2} > 0$

It would pay to know which formula goes to which circumstance.

distance formula: $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

midpoint formula: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

slope formula: $\frac{y_2 - y_1}{x_2 - x_1}$

quadratic formula: $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

slope-int. form: $y = mx + b$

max/min/vertex: $x = \frac{-b}{2a}$

sum & product formulas: sum = $\frac{-b}{a}$ product = $\frac{c}{a}$