

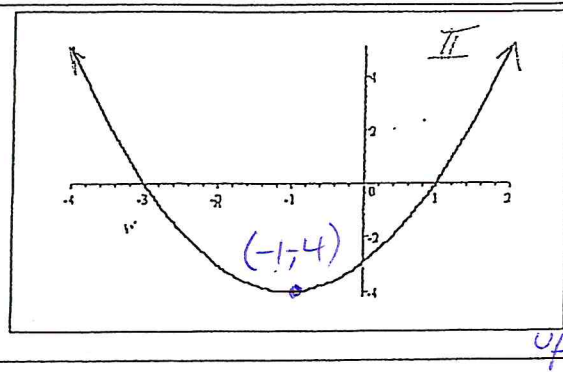
3) Use the three different functions given in different forms to answer the following questions:

a) Find the vertex for each. I $(2, -2)$ II $(-1, -4)$ III $V(-4, -4)$

b) Is the vertex a max or a min? Min for all - they all open up

c) Which has the least (smallest) min? It's a tie -
II + III both have a min at III $y = -4$

$f(x) = 2x^2 - 8x + 6$ I
 Vertex work here.
 $x = \frac{-(-8)}{2(2)} = \frac{8}{4} = 2$
LOS $x = 2$ $V(2, ?)$
 $f(2) = 2(2)^2 - 8(2) + 6$
 $f(2) = 2(4) - 16 + 6$ $(2, -2)$
 $8 - 16 + 6 = -2$ up



-7	5
-6	0
-5	-3
-4	-4
-3	-3
-2	0
-1	5
0	12
1	21

up

Simplify.

4) $(2 - 5i)(3 + 4i)$
 $6 + 8i - 15i - 20i^2$
 $6 - 7i - 20(-1)$
 $6 - 7i + 20$
 $26 - 7i$

5) $(2 - 5i) + (3 + 4i)$
 $5 - i$
 or
 $5 + i$

6) $(2 - 5i) - (3 + 4i)$
 $2 - 5i - 3 - 4i$
 $-1 - 9i$
 or
 $-1 + -9i$

7. i^{23} $4 \overline{) 23}$
 $\underline{20}$
 $R3$
 $i^{23} = i^3 = i^2 \cdot i$
 $= (-1)(i)$
 $= -i$

12. Rewrite in vertex form by completing the square. Then describe transformations.

$y = 3x^2 + 6x + 2$
 -2 -2

$y - 2 = 3x^2 + 6x$
 $y - 2 = 3(x^2 + 2x + 1)$
 $\frac{(\frac{2}{2})^2}{(1)^2}$
 $y + 1 = 3(x + 1)^2 - 1$
 $y = 3(x + 1)^2 - 1$
 vertical stretch of 3
 translation 1L
 translation 1D