Algebra 2A Unit 3 Stations Review Name: _____ Date: _____ Period: _____

Unit 3 Stations Answers

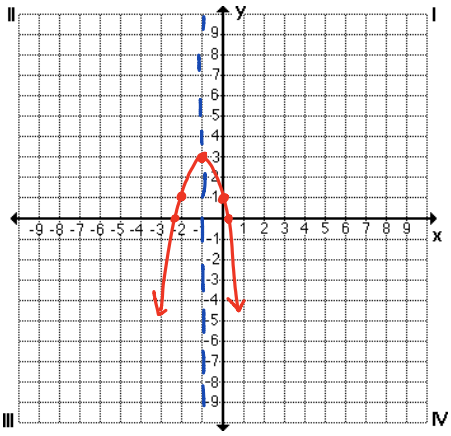
① GRAPHING QUADRATIC FUNCTIONS

axis of symmetry: $x=-1$ vertex: $(-1,3)$

y-intercept: $(0,1)$ x-intercept(s): $-1\pm\frac{\sqrt{6}}{2}$ $\approx 0.2, -2.2$

min/max: $(-1,3)$ domain: $\mathbb{R}$ range: $y\leq 3$

end behavior: as $x\to+\infty$, $f(x)\to-\infty$
as $x\to-\infty$, $f(x)\to-\infty$



② SOLVING QUADRATICS

1 $x=6\pm5\sqrt{2}$

2 $x=\frac{1\pm i\sqrt{2}}{3}$

③ SOLVING QUADRATICS PART 2

1 $x=-3\pm i\sqrt{11}$

2 $x=\frac{5}{3}, -\frac{5}{3}$

④ SOLVING QUADRATICS PART 3

1 $x=-3\pm\frac{1}{2}i$

2 $x=7, -5$

⑤ COMPLEX NUMBERS

1	2	3	4	5
$17-28i$	$-12+3i$	$\frac{-5+13i}{3}$	$10-2i$	$-\frac{i}{4}$

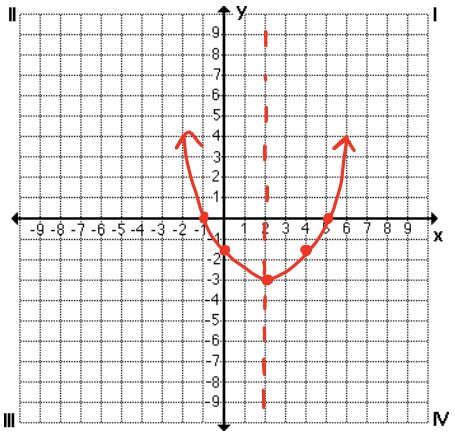
⑥ GRAPHING PART 2

axis of symmetry: $x = 2$ vertex: $(2, -3)$

y-intercept: $-1\frac{2}{3}$ x-intercept(s): $5, -1$

min/max: $(2, -3)$ domain: $\mathbb{R}$ range: $y \geq -3$

end behavior: as $x \to +\infty$, $f(x) \to +\infty$
as $x \to -\infty$, $f(x) \to +\infty$



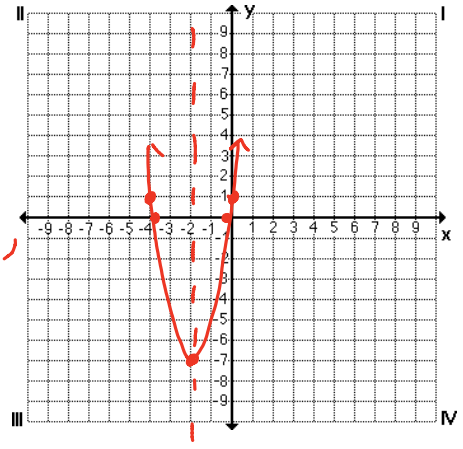
⑦ GRAPHING PART 3

axis of symmetry: $x = -2$ vertex: $(-2, -7)$

y-intercept: $(0, 1)$ x-intercept(s): $\frac{-4 \pm \sqrt{14}}{2} \approx -0.1, -3.9$

min/max: $(-2, -7)$ domain: $\mathbb{R}$ range: $y \geq -7$

end behavior: as $x \to +\infty$, $f(x) \to +\infty$
as $x \to -\infty$, $f(x) \to -\infty$



⑧ MODELING DROPPED AND LAUNCHED OBJECTS

1

$0 = -16t^2 + 500$

$t \approx 5.6$ seconds

2

$10 = -16t^2 + 32t + 266$

$t = 1 \pm \sqrt{17} \approx 5.1$ sec

⑨ FIND THE ERROR

1

mistake that was made: The denominator in step 2 should be $100 - 4i^2$

correct answer:

$\frac{25 - 5i}{52}$

2

mistake that was made: The square root of 36 is ± 6

correct answer:

4 and -8