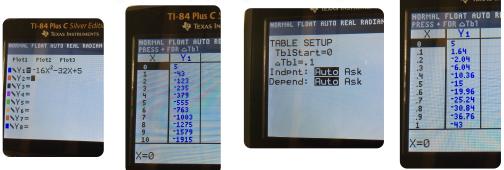
	Name:	Devied
Quadratic Formula Word Problems	Date:	Period:
<ol> <li>Jason jumped off of a cliff into the ocean in Acapulco wheight as a function of time could be modeled by the function time in seconds and h is the height in feet.</li> </ol>	-	0 100
a. How long did it take for Jason to reach his maxim	num height?	10 -960 X=0
b. What was	Xmin - 0 Xmax - 7 Ymin - 0 Ymax - 500	NORHAL FLOAT AUTO REAL RADIAN HP
NORTHAL FLOAT AUTO REAL RADIAN HP WINDOW Xmin=0 Xmax=7 Xscl=1 Ymin=100 Ymax=500 Yscl=100 Xres=1 $\Delta$ X=.02651515151515 TraceStep=.053030303030303		
2. If a toy rocket is launched vertically upward from ground level with an initial velocity of 128 feet per second, then its height h after t seconds is given by the equation $h(t) = -16t^2 + 1280t$		
neglected).		
		RMAL FLOAT AUTO REAL RADIAN MP Plot1 Plot2 Plot3 NY18-16X <sup>2</sup> +1280X
<ul> <li>a. How long will it take for the rocket to return to the second se</li></ul>		Y 2 = Y 3 = Y 4 = Y 5 = Y 6 = Y 7 = Y 8 = TL-84 Plus C Silver Edition 45 Taxe Institution
		NBRHAL FLDAT AUTO REAL R/ YESS-FGLATS         NORHAL FLDAT AUTO REA PESS-FGLATS           1         1795 2856         0           2         1860         0           3         1856         0           4         1860         0           5         5600         15           5         15600         15           6         15         15600           10         11220         25           10         11220         35           25         5560         15           15         2560         15           10         11220         35           25         2560         15           35         5560         15           56         5560         15           56         5560         15           56         5560         15           56         2560         15           56         5560         15
c. How long will it take the rocket to hit its maximum	n height?	VO TEXAS IN
d. What is the maximum height?		$\begin{array}{c c c c c c c c c c c c c c c c c c c $

## **Generated by CamScanner**

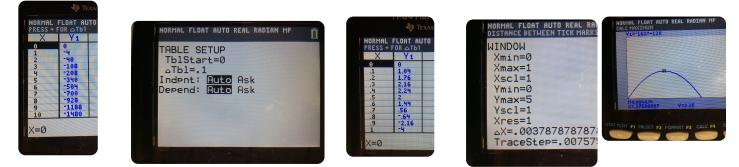
- 3. A rocket is launched from atop a 101 foot cliff with an initial velocity of 116 ft/s.
  - a. Substitute the values into the vertical motion formula  $h(t) = -16t^2 + vt + h_0$ . Let h(t) = 0

b. Use the guadratic formula to find out how long the rocket will take to hit the ground after it is launched. Round to the nearest tenth of a second.

4. You and a friend are hiking in the mountains. You want to climb to a ledge that is 20 ft. above you. The height of the grappling hook you throw is given by the function  $h(t) = -16t^2 - 32t + 5$ . What is the TI-84 Plus C h to reach the ledge? maximum height of the grappling hook? Can you throw



5. You are trying to dunk a basketball. You need to jump 2.5 ft. in the air to dunk the ball. The height that your feet are above the ground is given by the function  $h(t) = -16t^2 + 12t$ . What is the maximum height your feet will be above the ground? Will you be able to dunk the basketball?



6. A diver is standing on a platform 24 ft. above the pool. He jumps form the platform with an initi8al upward velocity of 8 ft/s. Use the formula  $h(t) = -16t^2 + vt + s$ , where h is his height above the water, t is the time, v is his starting upward velocity, and s is his starting height. How long will it take for him to hit the water?

## Generated by CamScanner