Complete the following questions in 4 column format. Remember each of these are worth 5 points.

(1) A stone is dropped into a well and it takes 10 seconds to hear it hit the water at the bottom.

How fast was the stone falling (in meters)?

$t = 10s$
$g = 10m/s^2$
$v = ?$

$v = gt = (10m/s^2)(10s) = \boxed{100\ m/s}$

How fast was the stone falling (in centimeters)?

$t = 10s$
$g = 1000cm/s^2$
$v = ?$

$v = gt = (1000cm/s^2)(10s) = \boxed{10{,}000\ cm/s}$

How fast was the stone falling (in feet)?

$t = 10s$
$g = 32ft/s^2$
$v = ?$

$v = gt = (32ft/s^2)(10s) = \boxed{320\ ft/s}$

How deep was the well in meters?

$t = 10s$
$g = 10m/s^2$
$D = ?$

$D = \frac{1}{2}gt^2 = \frac{1}{2}(10m/s^2)(10s)^2 = \boxed{500m}$

How deep was the well in centimeters?

$t = 10s$
$g = 1000cm/s^2$
$D = ?$

$D = \frac{1}{2}gt^2 = \frac{1}{2}(1000cm/s^2)(10s)^2 = \boxed{50{,}000cm}$

How deep was the well in feet?

$t = 10s$
$g = 32ft/s^2$
$D = ?$

$D = \frac{1}{2}gt^2 = \frac{1}{2}(32ft/s^2)(10s)^2 = \boxed{1600ft}$

(2) If it takes 40 seconds for a ball (thrown on Earth) to reach it's apex, how far up did it travel?

$t = 40s$
$D = ?$
$g = 10m/s^2$

$D = \frac{1}{2}gt^2 = \frac{1}{2}(10m/s^2)(40s)^2 = \boxed{8000m}$

(3) What is your reaction time if you catch a meter stick after it has fallen .225 m?

$D = .225m$
$g = 10m/s^2$
$t = ?$

$t = \sqrt{\frac{2D}{g}} = \sqrt{\frac{2(.225m)}{10m/s^2}} = \boxed{.212s}$