9. Award: 0 out of 10.00 points

Consider four different stocks, all of which have a required return of 20 percent and a most recent dividend of $3.20 per share. Stocks W, X, and Y are expected to maintain constant growth rates in dividends for the foreseeable future of 10 percent, 0 percent, and –5 percent per year, respectively. Stock Z is a growth stock that will increase its dividend by 20 percent for the next two years and then maintain a constant 10 percent growth rate thereafter. What is the dividend yield and capital gains yield for each of these four stocks? **(Leave no cells blank - be certain to enter "0" wherever required. A negative answer should be indicated by a minus sign. Do not round intermediate calculations and enter your answers as a percent rounded to 1 decimal place, e.g., 32.1.)**

	Dividend yield			Capital gains yield	
Stock W		%	Stock W		%
Stock X		%	Stock X		%
Stock Y		%	Stock Y		%
Stock Z		%	Stock Z		%

References

Worksheet Learning Objective: 08-01 Explain how stock prices depend on future dividends and dividend growth.

Difficulty: 3 Challenge Section: 8.1 Common Stock Valuation

Consider four different stocks, all of which have a required return of 20 percent and a most recent dividend of $3.20 per share. Stocks W, X, and Y are expected to maintain constant growth rates in dividends for the foreseeable future of 10 percent, 0 percent, and –5 percent per year, respectively. Stock Z is a growth stock that will increase its dividend by 20 percent for the next two years and then maintain a constant 10 percent growth rate thereafter. What is the dividend yield and capital gains yield for each of these four stocks? **(Leave no cells blank - be certain to enter "0" wherever required. A negative answer should be indicated by a minus sign. Do not round intermediate calculations and enter your answers as a percent rounded to 1 decimal place, e.g., 32.1.)**

	Dividend yield			Capital gains yield	
Stock W	10.0+/-1%	%	Stock W	10.0+/-1%	%
Stock X	20.0+/-1%	%	Stock X	0	%
Stock Y	25.0+/-1%	%	Stock Y	-5.0+/-1%	%
Stock Z	9.2+/-1%	%	Stock Z	10.8+/-1%	%

Explanation:

Note: Intermediate answers are shown below as rounded, but the full answer was used to complete the calculation.

We are asked to find the dividend yield and capital gains yield for each of the stocks. All of the stocks have a 20 percent required return, which is the sum of the dividend yield and the capital gains yield. To find the components of the total return, we need to find the stock price for each stock. Using this stock price and the dividend, we can calculate the dividend yield. The capital gains yield for the stock will be the total return (required return) minus the dividend yield.

W: $P_0 = D_0(1 + g)/(R - g) = \$3.20(1.10)/(.20 - .10) = \$35.20$
Dividend yield = $D_1/P_0 = \$3.20(1.10)/\$35.20 = .10$, or 10%
Capital gains yield = .20 − .10 = .10, or 10%

X: $P_0 = D_0(1 + g)/(R - g) = \$3.20/(.20 - 0) = \$16.00$
Dividend yield = $D_1/P_0 = \$3.20/\$16.00 = .20$, or 20%
Capital gains yield = .20 − .20 = 0%

Y: $P_0 = D_0(1 + g)/(R - g) = \$3.20(1 - .05)/(.20 + .05) = \$12.16$
Dividend yield = $D_1/P_0 = \$3.20(.95)/\$12.16 = .25$, or 25%
Capital gains yield = .20 − .25 = –.05, or –5%

Z: $P_2 = D_2(1 + g)/(R - g) = D_0(1 + g_1)^2(1 + g_2)/(R - g_2) = \$3.20(1.20)^2(1.10)/(.20 - .10) = \$50.69$
$P_0 = \$3.20(1.20)/(1.20) + \$3.20(1.20)^2/(1.20)^2 + \$50.69/(1.20)^2 = \$41.60$
Dividend yield = $D_1/P_0 = \$3.20(1.20)/\$41.60 = .092$, or 9.2%
Capital gains yield = .20 − .092 = .108, or 10.8%