10. Award: 0 out of 10.00 points

Milton Corporation has 8 percent coupon bonds making annual payments with a YTM of 7.3 percent. The current yield on these bonds is 7.65 percent. How many years do these bonds have left until they mature? **(Do not round intermediate calculations and round your answer to 2 decimal places, e.g., 32.16.)**

Maturity of bond		years

References

Worksheet Learning Objective: 07-02 Explain bond values and yields and why they fluctuate.

Difficulty: 2 Intermediate Section: 7.1 Bonds and Bond Valuation

Milton Corporation has 8 percent coupon bonds making annual payments with a YTM of 7.3 percent. The current yield on these bonds is 7.65 percent. How many years do these bonds have left until they mature? **(Do not round intermediate calculations and round your answer to 2 decimal places, e.g., 32.16.)**

Maturity of bond	9.20 +/-1%	years

Explanation:

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

To find the number of years to maturity for the bond, we need to find the price of the bond. Since we already have the coupon rate, we can use the bond price equation, and solve for the number of years to maturity. We are given the current yield of the bond, so we can calculate the price as:

Current yield = .0765 = $80/$P_0$

P_0 = $80/.0765

P_0 = $1,045.75

Now that we have the price of the bond, the bond price equation is:

$P_0 = \$1{,}045.75 = \$80\{[1 - (1/1.073^t)]/.073\} + \$1{,}000/1.073^t$

We can solve this equation for t as follows:

$\$1{,}045.75(1.073)^t = \$1{,}095.89(1.073)^t - 1{,}095.89 + 1{,}000$

$95.89 = 50.14(1.073)^t$

$1.9125 = 1.073^t$

$t = \ln 1.9125/\ln 1.073 = 9.20$

The bond has 9.20 years to maturity.

Calculator Solution:

Current yield = $.0765 = \$80/P_0$
$P_0 = \$80/.0765$
$P_0 = \$1{,}045.75$

Enter		7.3%	±$1,045.75	$80	$1,000
	N	I/Y	PV	PMT	FV
Solve for	9.20				