4. Award: 0 out of 10.00 points

Ashburn Corporation issued 20-year bonds two years ago at a coupon rate of 7.7 percent. The bonds make semiannual payments. If these bonds currently sell for 107 percent of par value, what is the YTM? **(Do not round intermediate calculations and enter your answer as a percent rounded to 2 decimal places, e.g., 32.16.)**

YTM		%

References

Worksheet	Learning Objective: 07-02 Explain bond values and yields and why they fluctuate.
Difficulty: 1 Basic	Section: 7.1 Bonds and Bond Valuation

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YTM	7.01 +/-1%	%

Explanation:

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

Here we are finding the YTM of a semiannual coupon bond. The bond price equation is:

$P = \$1{,}070 = \$38.50(\text{PVIFA}_{R\%,36}) + \$1{,}000(\text{PVIF}_{R\%,36})$

Since we cannot solve the equation directly for R, using a spreadsheet, a financial calculator, or trial and error, we find:

$R = 3.505\%$

Since the coupon payments are semiannual, this is the semiannual interest rate. The YTM is the APR of the bond, so:

YTM = 2 × 3.505%
YTM = 7.01%

Calculator Solution:

Enter	36		±$1,070	$77/2	$1,000
	N	I/Y	PV	PMT	FV
Solve for		3.505%			

3.505% × 2 = 7.01%