# MAT.07.CR.2.000EE.D.158

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| Sample Item ID: | MAT.07.CR.2.000EE.D.158 |
| Grade: | 07 |
| Primary Claim: | **Claim 2: Problem Solving**<br>Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies. |
| Secondary Claim(s): | Claim 1: Concepts and Procedures<br>Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency. |
| Primary Content Domain: | Expressions and Equations |
| Secondary Content Domain(s): | |
| Assessment Target(s): | 2 D: Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).<br><br>2 A: Apply mathematics to solve well-posed problems arising in everyday life, society, and the workplace.<br><br>1 D: Solve real-life and mathematical problems using numerical and algebraic expressions and equations. |
| Standard(s): | 7.EE.1, 7.EE.2, 7.EE.4, 6.EE.7 |
| Mathematical Practice(s): | 1, 2, 3, 4, 7 |
| DOK: | 2 |
| Item Type: | CR |
| Score Points: | 3 |
| Difficulty: | M |
| Key: | See Sample Top-Score Response. |
| Stimulus/Source: | |
| Target-Specific Attributes (e.g., accessibility issues): | Calculator may be used |
| Notes: | |

All books in a store are being discounted by 30%.
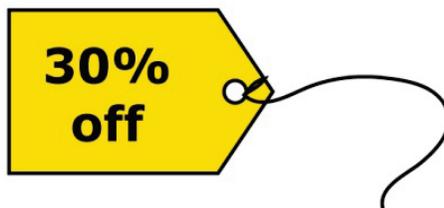


## *Part A*

Let $x$ represent the regular price of any book in the store. Write an expression that can be used to find the sale price of any book

in the store.

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Expression

### *Part B*

Jerome bought a book on sale at the store. The sale price of the book was $8.96. Write and solve an equation to determine the regular price of the book to the nearest cent.

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Equation

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Regular Price of Book

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*Sample Top-Score Response:*

**Part A:**   $x - 0.30x$ or $0.70x$

**Part B:**  The regular price of the book was $12.80.

$$x - 0.30x = 8.96$$
$$0.70x = 8.96$$
$$x = 12.80$$

*Scoring Rubric:*

Responses to this item will receive 0–2 points, based on the following:

**3 points:** The student is able to create both an expression and equation related to sale and regular prices of a book, and solve the equation correctly.

**2 points:** The student is able to create both an expression and equation related to sale and regular prices of a book, but makes a minor error in solving the equation. **OR** The student is able to use alternate strategies to find a correct answer for the price of the book, but doesn't know how to correctly show the expression or equation.

**1 point:** The student can write either the expression or the equation correctly, but not both. The student is not able to get the correct answer for the price of the book.

**0 points:** The student shows inconsistent or no understanding of writing expressions, or of solving an equation for real-life problems.