Math in Fashion: Try other fashion challenges

Answer Key

Your challenge is to find a way to bring a retail price down by changing the design of a garment.

(This activity can also be completed online. Go to www.getthemath.org, click on “The Challenges,” then scroll down and click on “Math in Fashion: Try Other Fashion Challenges.”)

CARGO SHORTS
Possible Strategies and Solutions:
1. Identify what you know.
   - Select a garment: Item: Cargo shorts___X___ Prom dress_______ Jacket____
   - Use the Original Cost Sheets (online or at the end of this handout) to record the:
     Target retail price __$37.00____ Original retail price __$53.35____
   - The retail price is the wholesale cost (materials plus labor) marked up by ____220___ %

2. Plan it out. What is the relationship between the wholesale cost and the retail price? Try explaining it with a representation, such as a numerical or algebraic expression, equation, table, picture, chart, etc. [Student responses will vary depending on their strategies.]

3. Solve the problem: What is the highest possible wholesale cost? Show all your steps.

   Strategy 1:
   - Use a proportion to express the fact that every dollar of the wholesale price equals $2.20 in the retail price of the shorts:
     \[
     \frac{\text{Retail}}{\text{Wholesale}} = \frac{2.20}{1}
     \]
   - To find the wholesale cost needed for $37 shorts, set up the following proportion:
     \[
     \frac{37}{w} = \frac{2.20}{1}
     \]
     \[
     37 = 2.20w
     \]
     \[
     \frac{37}{2.20} = \frac{2.20w}{2.20}
     \]
     \[
     \$16.82 = w
     \]
   - The wholesale cost cannot exceed $16.82 to hit a retail price point of $37.
CARGO SHORTS: Strategy 2:

○ Discuss the fact that 220% of the costs of materials and labor, or wholesale, must come in under the retail price point of $37.

○ Write a mathematical model in words:
  
  220% of the wholesale cost (materials and labor) is less than thirty-seven dollars.

Translate into an inequality, and solve:

Let \( w \) = wholesale cost

\[
\frac{220}{100} w < 37
\]

\[
\frac{11}{5} w < 37
\]

\[
\frac{5}{11} \times \frac{11}{5} w < 37 \times \frac{5}{11}
\]

\[ w < \$16.82 \]

Your solution: The maximum wholesale cost that meets the target retail price is: **$16.82** (\( x = 2.2 = \$37.004 = \$37.00 \) due to rounding and truncating)

Encourage your students to discuss why/where/how we often round.

MAKE YOUR CHANGES

1. Identify what you know. Look at the numbers on the original cost sheet and ideas for possible changes.

2. Plan it out. What changes would you make to the design? Why?
   [Student responses will vary depending on their strategies.]

3. Solve the problem. Calculate the wholesale and retail costs of the new garment. Show all your steps below. Use the blank cost sheet on the final pages to record each value you chose.

   Your solution: (Round your numbers to the nearest cent)
   The wholesale cost of the new garment is: \( \text{[see below]} \)
   The retail cost of the new garment is: \( \text{[see below]} \)

4. How did you figure out your final answer? If you were going to email Chloe to explain your strategy, what would you tell her? (Use separate paper if needed.)

Possible Strategies and Solutions for lowering the price of the CARGO SHORTS:

• Solution #1: Change main fabric, fly front to zipper, pockets to 2-button, remove back pockets, and use 1-color embroidery.

  Change main fabric to cotton/poly: $5 - 3.50 = \text{subtract $1.50}$
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- Change to zipper fly front: ($1.25 - .90) = 0.35 + (.25 sewing) = subtract $0.60
- Change to 2-button pockets: ($4 - $2) + (.25 sewing) = subtract $2.25
- Remove back pockets: subtract $2 and .50 sewing = $2.50
- Use 1-color embroidery: subtract $0.75 sewing
- Total costs = $24.25 - ($1.50+$0.60+$2.25+$2.50+$0.75) = $16.65

The retail price, at a 220% mark-up, would be: $16.65 x 2.2 = $36.63

Cost of your new design:  Wholesale cost $16.65 Retail Price $36.63

- Solution #2: Change fly front to zipper, remove button pockets, and remove embroidery.
  - Change to zipper fly front: ($1.25 - .90) = 0.35 + (.25 sewing) = subtract $0.60
  - Remove button pockets: $4 + .50 sewing = subtract $4.50
  - Remove embroidery: $1.50 + $1.25 sewing = subtract $2.75
  - Total costs = $24.25 - ($0.60+$4.50+$2.75) = $16.40

The retail price, at a 220% mark-up, would be: $16.40 x 2.2 = $36.08

Cost of your new design:  Wholesale cost $16.40 Retail Price $36.08

- Solution #3: Change main fabric, fly front to zipper, pockets to 2-button, and remove embroidery.
  - Change main fabric to poly twill: $5 - 2.50 = subtract $2.50
  - Change to zipper fly front: ($1.25 - .90) = 0.35 + (.25 sewing) = subtract $0.60
  - Change to 2-button pockets: ($4 - $2) + (.25 sewing) = subtract $2.25
  - Remove embroidery: $1.50 + $1.25 sewing = subtract $2.75
  - Total costs = $24.25 - ($2.50+$0.60+$2.25+$2.75) = $16.15

The retail price, at a 220% mark-up, would be: $16.15 x 2.2 = $35.53

Cost of your new design:  Wholesale cost $16.15 Retail Price $35.53

- Solution #4: Change main fabric, remove button pockets, and remove back pockets.
  - Change main fabric to cotton/poly: $5 - 3.50 = subtract $1.50
  - Remove button pockets: $4 + .50 sewing = subtract $4.50
  - Remove back pockets: subtract $2 and .50 sewing = $2.50
  - Total costs = $24.25 - ($1.50+$4.50+$2.50) = $15.75

The retail price, at a 220% mark-up, would be: $15.75 x 2.2 = $34.65

Cost of your new design:  Wholesale cost $15.75 Retail Price $34.65

- Solution #5: Change main fabric, fly front to zipper, remove back pockets, and remove embroidery.
  - Change main fabric to poly twill: $5 - 2.50 = subtract $2.50
  - Change to zipper fly front: ($1.25 - .90) = 0.35 + (.25 sewing) = subtract $0.60
  - Remove back pockets: subtract $2 and .50 sewing = $2.50
  - Remove embroidery: $1.50 + $1.25 sewing = subtract $2.75
  - Total costs = $24.25 - ($2.50+$0.60+$2.50+$2.75) = $15.90

The retail price, at a 220% mark-up, would be: $15.90 x 2.2 = $34.98

Cost of your new design:  Wholesale cost $15.90 Retail Price $34.98
PROM DRESS

Possible Strategies and Solutions:
1. Select and record your choice below:
   Item: Cargo shorts____ Prom dress X____ Jacket___

2. Record the following information: Target retail price $85.00 Original retail price $116.65

3. The retail price is the wholesale cost (materials plus labor) marked up by 220%. Based on your target retail price, what is the highest possible wholesale cost? Solve your problem in the space below. Show all your steps and be sure to label.

**Strategy 1:**
- Use a proportion to express the fact that every dollar of the wholesale price equals $2.20 in the retail price of the dress:

\[
\frac{\text{Retail}}{\text{Wholesale}} = \frac{2.20}{1}
\]

To find the wholesale cost needed for the $85 dress, set up the following proportion:

\[
\frac{85}{w} = \frac{2.20}{1}
\]

\[
85 = 2.20w
\]

\[
\frac{85}{2.20} = w
\]

\[w = 38.64\]

The wholesale cost cannot exceed $38.64 to hit a retail price point of $85.

**Strategy 2:**
- Discuss the fact that 220% of the costs of materials and labor, or wholesale, must come in under the retail price point of $85.
- Write a mathematical model in words:

  220% of the wholesale cost (materials and labor) is less than eighty-five dollars.

  Translate into an inequality, and solve:

Let \( w = \) wholesale cost

\[
\frac{220}{100}w < 85
\]

\[
\frac{11}{5}w < 85
\]

\[
\frac{5}{11} \times \frac{11}{5}w < 85 \times \frac{5}{11}
\]

\[w < 85 \times \frac{5}{11}
\]
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5. The wholesale cost cannot exceed $38.64 to hit a retail price point of $85.

Your solution: The maximum wholesale cost that meets the target retail price is: $38.64 \text{ (x 2.2 = $85.008 = $85.00 due to rounding & truncating)}

**Encourage your students to discuss why/where/how we often round.**

MAKE YOUR CHANGES

5. Identify what you know. Look at the numbers on the original cost sheet and ideas for possible changes.

6. Plan it out. What changes would you make to the design? Why?
   [Student responses will vary depending on their strategies.]

7. Solve the problem. Calculate the wholesale and retail costs of the new garment. Show all your steps below. Use the blank cost sheet on the final pages to record each value you chose.

   **Your solution:** (Round your numbers to the nearest cent)
   The wholesale cost of the new garment is: \text{(see below)}
   The retail cost of the new garment is: \text{(see below)}

8. How did you figure out your final answer? Explain your strategy.

   **Possible Strategies and Solutions for lowering the price of the PROM DRESS:**

   - **Solution #1:** Shorten the skirt, change the sleeves, remove lining, and change closure.
     - Shorten skirt: $13.50 - 12 = subtract $1.50
     - Change sleeves to strapless: subtract $1.50
     - Remove lining: subtract $10 and $1.50 sewing = $11.50
     - Change closure to plain zipper: ($2 - 1) = subtract $1.00
     - Total costs = $53.00 - ($1.50+$1.50+11.50+$1.00) = $37.50
     - The retail price, at a 220% mark-up, would be: $37.50 \times 2.2 = $82.50
     - Cost of your new design: Wholesale cost $37.50 Retail Price $82.50

   - **Solution #2:** Shorten the skirt, change the sleeves, remove lining, and change closure.
     - Shorten skirt: $13.50 - 12 = subtract $1.50
     - Change sleeves to sleeveless: subtract $0.75
     - Remove lining: subtract $10 and $1.50 sewing = $11.50
     - Change closure to plain zipper: ($2 - 1) = subtract $1.00
     - Total costs = $53.00 - ($1.50+$0.75+11.50+$1.00) = $38.25
     - The retail price, at a 220% mark-up, would be: $38.25 \times 2.2 = $84.15
     - Cost of your new design: Wholesale cost $38.25 Retail Price $84.15
• **Solution #3: Remove the lining and embroidery.**
  ○ Remove lining: subtract $10 and $1.50 sewing = $11.50
  ○ Remove embroidery = subtract $9.00
  ○ Total costs = $53.00 - ($11.50+$9.00) = $32.50
  The retail price, at a 220% mark-up, would be: $32.50 x 2.2 = $71.50
  Cost of your new design: Wholesale cost $32.50 Retail Price $71.50

• **Solution #4: Shorten the skirt, change the sleeves, and remove lining.**
  ○ Shorten skirt: $13.50 - 12 = subtract $1.50
  ○ Change sleeves to strapless: subtract $1.50
  ○ Remove lining: subtract $10 and $1.50 sewing = $11.50
  ○ Total costs = $53.00 - ($1.50+$1.50+$11.50) = $38.50
  The retail price, at a 220% mark-up, would be: $38.50 x 2.2 = $84.70
  Cost of your new design: Wholesale cost $38.50 Retail Price $84.70

• **Solution #5: Change the sleeves, remove lining, and remove embroidery.**
  ○ Change sleeves to sleeveless: subtract $0.75
  ○ Remove lining: subtract $10 and $1.50 sewing = $11.50
  ○ Remove embroidery = subtract $9.00
  ○ Total costs = $53.00 - ($0.75+$11.50+$9.00) = $31.75
  ○ The retail price, at a 220% mark-up, would be: $31.75 x 2.2 = $69.85
  Cost of your new design: Wholesale cost $31.75 Retail Price $69.85

**JACKET**

**Possible Strategies and Solutions:**
1. Select and record your choice below:
   - Item: Cargo shorts_____ Prom dress___ Jacket_X____

2. Record the following information: Target retail price $\$85.00\$ Original retail price $\$116.65\$

3. The retail price is the wholesale cost (materials plus labor) marked up by 220%. Based on your target retail price, what is the highest possible wholesale cost? Solve your problem in the space below. Show all your steps and be sure to label.

**Strategy 1:**
- Use a proportion to express the fact that every dollar of the wholesale price equals $2.20 in the retail price of the jacket:
  \[
  \frac{\text{Retail}}{\text{Wholesale}} = \frac{2.20}{1}
  \]
  To find the wholesale cost needed for the $60 jacket, set up the following proportion:
  \[
  \frac{60}{w} = \frac{2.20}{1}
  \]
\[
\begin{align*}
60 &= 2.20w \\
\frac{60}{2.20} &= \frac{2.20w}{2.20} \\
$27.27 &= w
\end{align*}
\]

The wholesale cost cannot exceed $27.27 to hit a retail price point of $60.

**Strategy 2:**
- Discuss the fact that 220% of the costs of materials and labor, or wholesale, must come in under the retail price point of $60.
- Write a mathematical model in words:
  
  220% of the wholesale cost (materials and labor) is less than sixty dollars.

- Translate into an inequality, and solve:
  
  Let \( w \) = wholesale cost

  \[
  \frac{220}{100}w < 60
  \]

  \[
  \frac{11}{5}w < 60
  \]

  \[
  \frac{5}{11} \times \frac{11}{5}w < 60 \times \frac{5}{11}
  \]

  \[
  w < $27.27
  \]

  The wholesale cost cannot exceed $27.27 to hit a retail price point of $60.

*Your solution:* The maximum wholesale cost that meets the target retail price is: $27.27 (x 2.2 = $59.994 = $60.00 due to rounding) *Encourage your students to discuss why/where/how we often round.*

**MAKE YOUR CHANGES**

9. **Identify what you know.** Look at the numbers on the original cost sheet and ideas for possible changes.

10. **Plan it out.** What changes would you make to the design? Why? [Student responses will vary depending on their strategies.]

11. **Solve the problem.** Calculate the wholesale and retail costs of the new garment. Show all your steps below. Use the blank cost sheet on the final pages to record each value you chose.

   *Your solution:* (Round your numbers to the nearest cent)

   The wholesale cost of the new garment is: *(see below)*

   The retail cost of the new garment is: *(see below)*

12. **How did you figure out your final answer?** Explain your strategy.
**Possible Strategies and Solutions for lowering the price of the JACKET:**

- **Solution #1:** Change sleeves, remove hood, and remove logos.
  - Change sleeves to polyester: $8.50 - 2.50 = subtract $6.00
  - No hood: subtract $2.75
  - No logos: subtract $3.25
  - Total costs = $38.50 - ($6.00+$2.75+$3.25) = $26.50
  - The retail price, at a 220% mark-up, would be: $26.50 x 2.2 = $58.30
  - Cost of your new design: Wholesale cost **$26.50** Retail Price **$58.30**

- **Solution #2:** Change main fabric, sleeves, and remove hood.
  - Change main fabric to polyester: $11 - 5 = subtract $6.00
  - Change sleeves to cotton: $8.50 - 4.50 = subtract $4.00
  - No hood: subtract $2.75
  - Total costs = $38.50 - ($6.00+$4.00+$2.75) = $25.75
  - The retail price, at a 220% mark-up, would be: $25.75 x 2.2 = $56.65
  - Cost of your new design: Wholesale cost **$25.75** Retail Price **$56.65**

- **Solution #3:** Change main fabric, sleeves, and remove logos.
  - Change main fabric to denim: $11 - 9 = subtract $2.00
  - Change sleeves to polyester: $8.50 - 2.50 = subtract $6.00
  - No logos: subtract $3.25
  - Total costs = $38.50 - ($2.00+$6.00+$3.25) = $27.25
  - The retail price, at a 220% mark-up, would be: $27.25 x 2.2 = $59.95
  - Cost of your new design: Wholesale cost **$27.25** Retail Price **$59.95**

- **Solution #4:** Change main fabric, sleeves, remove hood, and change logo.
  - Change main fabric to polyester: $11 - 5 = subtract $6.00
  - Change sleeves to cotton: $8.50 - 4.50 = subtract $4.00
  - No hood: subtract $2.75
  - Change logo - front only: subtract $1.25
  - Total costs = $38.50 - ($6.00+$4.00+$2.75+$1.25) = $24.50
  - The retail price, at a 220% mark-up, would be: $24.50 x 2.2 = $53.90
  - Cost of your new design: Wholesale cost **$24.50** Retail Price **$53.90**

- **Solution #5:** Change main fabric, sleeves and remove hood.
  - Change main fabric to polyester: $11 - 5 = subtract $6.00
  - Change sleeves to polyester: $8.50 - 2.50 = subtract $6.00
  - Total costs = $38.50 - ($6.00+$6.00) = $26.50
  - The retail price, at a 220% mark-up, would be: $26.50 x 2.2 = $58.30
  - Cost of your new design: Wholesale cost **$26.50** Retail Price **$58.30**
**Math in Fashion: Try other fashion challenges**

*Blank Cost Sheet: Cargo Shorts*

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fabric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self 1:</td>
<td>1 yard</td>
<td>per yard</td>
<td></td>
</tr>
<tr>
<td><strong>Trim</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 1:</td>
<td></td>
<td>per</td>
<td></td>
</tr>
<tr>
<td>Trim 2:</td>
<td>pieces</td>
<td>per piece</td>
<td></td>
</tr>
<tr>
<td>Trim 3:</td>
<td>piece</td>
<td>$1.00 per piece</td>
<td></td>
</tr>
<tr>
<td>Trim 4:</td>
<td>yards</td>
<td>$0.50 per yard</td>
<td></td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting</td>
<td>1</td>
<td>$1.00</td>
<td></td>
</tr>
<tr>
<td>Grading</td>
<td>1</td>
<td>$3.25</td>
<td></td>
</tr>
<tr>
<td>Sewing</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Wholesale Cost**  

$\text{Retail Price (Including Markup)} = \text{Total Wholesale Cost} \times 220\%$

| Retail Price (Including Markup) | \times 220\% | $\text{\textdollar}\text{\textdollar}$ |
### Math in Fashion: Try other fashion challenges

*Original Cost Sheet: Cargo Shorts*

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self 1: 100% cotton twill</td>
<td>1 Yard</td>
<td>$5.00 per yard</td>
<td>$5.00</td>
</tr>
<tr>
<td>Trim</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 1: Button fly front</td>
<td>5 Buttons</td>
<td>$0.25 per button</td>
<td>$1.25</td>
</tr>
<tr>
<td>Trim 2: 2 4-button pockets</td>
<td>2 pieces</td>
<td>$2.00 per piece</td>
<td>$4.00</td>
</tr>
<tr>
<td>Trim 3: Welt pockets</td>
<td>2 pieces</td>
<td>$1.00 per piece</td>
<td>$2.00</td>
</tr>
<tr>
<td>Trim 4: 3-color embroidery</td>
<td>3 yards</td>
<td>$0.50 per yard</td>
<td>$1.50</td>
</tr>
<tr>
<td>Labor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting</td>
<td>1</td>
<td>$1.00</td>
<td>$1.00</td>
</tr>
<tr>
<td>Grading</td>
<td>1</td>
<td>$3.25</td>
<td>$3.25</td>
</tr>
<tr>
<td>Sewing</td>
<td>1</td>
<td>$6.25</td>
<td>$6.25</td>
</tr>
<tr>
<td><strong>Total Wholesale Cost</strong></td>
<td></td>
<td></td>
<td>$24.25</td>
</tr>
<tr>
<td><strong>Retail Price (Including Markup)</strong></td>
<td></td>
<td>x 220%</td>
<td>$53.35</td>
</tr>
</tbody>
</table>
### Blank Cost Sheet: Prom Dress

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fabric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self 1: Poly charmeuse silk</td>
<td>yards</td>
<td>$3.00 per yard</td>
<td></td>
</tr>
<tr>
<td>Self 2:</td>
<td>yards</td>
<td>$3.00 per yard</td>
<td></td>
</tr>
<tr>
<td>Lining 1: Polyester lining</td>
<td>yards</td>
<td>$2.50 per yard</td>
<td></td>
</tr>
<tr>
<td><strong>Trim</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 1: Embroidery thread</td>
<td>yards</td>
<td>$0.50 per yard</td>
<td></td>
</tr>
<tr>
<td>Trim 2:</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting</td>
<td>1</td>
<td>$1.50</td>
<td></td>
</tr>
<tr>
<td>Grading</td>
<td>1</td>
<td>$5.00</td>
<td></td>
</tr>
<tr>
<td>Sewing</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Wholesale Cost</strong></td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td><strong>Retail Price (Including Markup)</strong></td>
<td></td>
<td>$ x 220%</td>
<td>$</td>
</tr>
</tbody>
</table>
### Math in Fashion: Try other fashion challenges

*Original Cost Sheet: Prom Dress*

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fabric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self 1: Poly charmeuse silk</td>
<td>4.5 yards</td>
<td>$3.00 per yard</td>
<td>$13.50</td>
</tr>
<tr>
<td>Self 2: Silk - sleeves &amp; straps</td>
<td>0.5 yards</td>
<td>$3.00 per yard</td>
<td>$1.50</td>
</tr>
<tr>
<td>Lining 1: Polyester lining</td>
<td>4 yards</td>
<td>$2.50 per yard</td>
<td>$10.00</td>
</tr>
<tr>
<td><strong>Trim</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 1: Embroidery thread</td>
<td>12 yards</td>
<td>$0.50 per yard</td>
<td>$6.00</td>
</tr>
<tr>
<td>Trim 2: Lace-up closure</td>
<td>1 piece</td>
<td>$2.00 per piece</td>
<td>$2.00</td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting</td>
<td>1</td>
<td>$1.50</td>
<td>$1.50</td>
</tr>
<tr>
<td>Grading</td>
<td>1</td>
<td>$5.00</td>
<td>$5.00</td>
</tr>
<tr>
<td>Sewing</td>
<td>1</td>
<td>$13.50</td>
<td>$13.50</td>
</tr>
<tr>
<td><strong>Total Wholesale Cost</strong></td>
<td></td>
<td></td>
<td>$53.00</td>
</tr>
<tr>
<td><strong>Retail Price (Including Markup)</strong></td>
<td></td>
<td>x 220%</td>
<td>$116.60</td>
</tr>
</tbody>
</table>
Math in Fashion: Try other fashion challenges

Blank Cost Sheet: Jacket

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fabric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self 1:</td>
<td>2 yards</td>
<td>$5.50</td>
<td></td>
</tr>
<tr>
<td>Self 2:</td>
<td>1 yard</td>
<td>$8.50</td>
<td></td>
</tr>
<tr>
<td>Self 3:</td>
<td></td>
<td>$4.00</td>
<td></td>
</tr>
<tr>
<td><strong>Trim</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 1: Name embroidery</td>
<td>yard</td>
<td>$0.50</td>
<td></td>
</tr>
<tr>
<td>Trim 2: Logos</td>
<td>pieces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 3: Buttons</td>
<td>5 buttons</td>
<td>$0.25 per button</td>
<td></td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting &amp; Grading</td>
<td>1</td>
<td>$4.50</td>
<td></td>
</tr>
<tr>
<td>Sewing</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Wholesale Cost</strong></td>
<td></td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>

Retail Price (Including Markup) $ x 220% $
## Math in Fashion: Try other fashion challenges

*Original Cost Sheet: Jacket*

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fabric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self 1: Wool</td>
<td>2 yards</td>
<td>$5.50  per yard</td>
<td>$11.00</td>
</tr>
<tr>
<td>Self 2: Leather (sleeves)</td>
<td>1 yard</td>
<td>$8.50 per yard</td>
<td>$8.50</td>
</tr>
<tr>
<td>Self 3: Cotton (hood)</td>
<td>0.5 yards</td>
<td>$4.00 per yard</td>
<td>$2.00</td>
</tr>
<tr>
<td><strong>Trim</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim 1: Name embroidery</td>
<td>1 yard</td>
<td>$0.50 per yard</td>
<td>$0.50</td>
</tr>
<tr>
<td>Trim 2: Back &amp; front logos</td>
<td>2 pieces</td>
<td>$2.25 two pieces</td>
<td>$2.25</td>
</tr>
<tr>
<td>Trim 3: Buttons</td>
<td>5 buttons</td>
<td>$0.25 per button</td>
<td>$1.25</td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting &amp; Grading</td>
<td>1</td>
<td>$4.50</td>
<td>$4.50</td>
</tr>
<tr>
<td>Sewing</td>
<td>1</td>
<td>$8.50</td>
<td>$8.50</td>
</tr>
<tr>
<td><strong>Total Wholesale Cost</strong></td>
<td></td>
<td></td>
<td>$38.50</td>
</tr>
<tr>
<td><strong>Retail Price (Including Markup)</strong></td>
<td></td>
<td>x 220%</td>
<td>$84.70</td>
</tr>
</tbody>
</table>