

A.CED.A.1: Modeling Linear Inequalities 1a

- 1 The cost of a pack of chewing gum in a vending machine is \$0.75. The cost of a bottle of juice in the same machine is \$1.25. Julia has \$22.00 to spend on chewing gum and bottles of juice for her team and she must buy seven packs of chewing gum. If b represents the number of bottles of juice, which inequality represents the maximum number of bottles she can buy?
- 1) $0.75b + 1.25(7) \geq 22$
 - 2) $0.75b + 1.25(7) \leq 22$
 - 3) $0.75(7) + 1.25b \geq 22$
 - 4) $0.75(7) + 1.25b \leq 22$
- 2 Connor wants to attend the town carnival. The price of admission to the carnival is \$4.50, and each ride costs an additional 79 cents. If he can spend at most \$16.00 at the carnival, which inequality can be used to solve for r , the number of rides Connor can go on, and what is the maximum number of rides he can go on?
- 1) $0.79 + 4.50r \leq 16.00$; 3 rides
 - 2) $0.79 + 4.50r \leq 16.00$; 4 rides
 - 3) $4.50 + 0.79r \leq 16.00$; 14 rides
 - 4) $4.50 + 0.79r \leq 16.00$; 15 rides
- 3 Natasha is planning a school celebration and wants to have live music and food for everyone who attends. She has found a band that will charge her \$750 and a caterer who will provide snacks and drinks for \$2.25 per person. If her goal is to keep the average cost per person between \$2.75 and \$3.25, how many people, p , must attend?
- 1) $225 < p < 325$
 - 2) $325 < p < 750$
 - 3) $500 < p < 1000$
 - 4) $750 < p < 1500$
- 4 The acidity in a swimming pool is considered normal if the average of three pH readings, p , is defined such that $7.0 < p < 7.8$. If the first two readings are 7.2 and 7.6, which value for the third reading will result in an overall rating of normal?
- 1) 6.2
 - 2) 7.3
 - 3) 8.6
 - 4) 8.8

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Answer Section

1 ANS: 4 REF: 081505ai

2 ANS: 3 REF: 011513ai

3 ANS: 4

$$\frac{750 + 2.25p}{p} > 2.75 \quad \frac{750 + 2.25p}{p} < 3.25$$

$$750 + 2.25p > 2.75p \quad 750 + 2.25p < 3.25p$$

$$750 > .50p \quad 750 < p$$

$$1500 > p$$

REF: 061524ai

4 ANS: 2

$$7 < \frac{7.2 + 7.6 + p_L}{3} \quad \text{and} \quad \frac{7.2 + 7.6 + p_H}{3} < 7.8$$

$$6.2 < p_L \quad p_H < 8.6$$

REF: 061607ai