

Worksheet 1

ANSWERS AND SOLUTIONS

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Problem 1 (Level of difficulty: **easy**)

Jessica is planning to rent the bicycle and only has \$20 in her pocket. The bike rent service charges a \$9 service fee and a \$5.35 per hour rental fee.

If Jessica is going to rent a bike for x hours, which inequality represents this scenario?

- A) $9x > 20$
- B) $9 + 5.35x \leq 20$**
- C) $9x + 5.35 \leq 20$
- D) $5.35x \geq 20$

Jessica can not spend more than 20 dollars.

The key phrase “only \$20” makes the inequality sign less than or equal to 20. (Math notation: ≤ 20)

Since Jessica must pay a one-time \$9 service fee at the beginning and \$5.35 for each hour going forward, the total amount that she will spend is $(9+5.35x)$.

Correct answer: B.

Problem 2 (Level of difficulty: **easy**)

A small group of workers should harvest at least 100 pounds of blackberries in the forest within one whole day. In the morning, they have already collected 32 pounds. In the afternoon, workers are planning to pick on average 11 pounds of berries per hour for y hours. Which inequality correctly models this situation?

- A) $32 + 11y > 100$
- B) $32 + 11y \leq 100$
- C) $11y \geq 100$
- D) $32 + 11y \geq 100$**

A group of workers should harvest minimum 100 lbs. The key phrase “at least 100 pounds” makes the inequality sign greater than or equal to 100. (Math notation: ≥ 100)

Since in the morning they’ve collected 32 lbs. and planning to get 11 lbs. per hour for y hours, the total weight of berries for the whole working day will be $(32+11y)$.

Correct answer: D.

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Problem 3 (Level of difficulty: **medium**)

A group of classmates is going to the movie to watch a new film. The group consists of seven girls and five boys. Each child got \$15 from parents. One cinema ticket costs \$ x and one popcorn is \$ y . If each child is going to buy one movie ticket and one popcorn, which mathematical inequality below represents this real-life situation?

A) $12x + 12y > 180$

B) $12x + 12y \leq 180$

C) $7x + 5y \leq 180$

D) $12xy > 180$

Since each child got \$15 for their parents, altogether 12 children have collected $12 \times 15 = \$180$.

A group of classmates can spend no more than \$180, which makes the inequality sign less than or equal to 180. Math notation: ≤ 180)

Since in the morning they've collected 32 lbs. and planning to get 11 lbs. per hour for y hours, the total weight of berries for the whole working day will be $(32+11y)$.

Correct answer: B.