Unit 2 Lesson 18: Inequalities in Context

1 Inequalities (Warm up)

Student Task Statement

Place a < or > to correctly complete the inequality.

1. 5 _____ 10

2. 5 _____ -10

3. -5 _____ -10

4. $\frac{1}{5}$ _____ $\frac{1}{10}$

5. $\frac{-1}{5}$ _____ $\frac{-1}{10}$

2 Sweater Weather

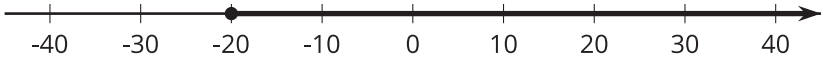
Student Task Statement

Elena and Lin are planning some cold-weather camping and are studying jackets and sleeping bags. Here is what they learned about some different equipment.

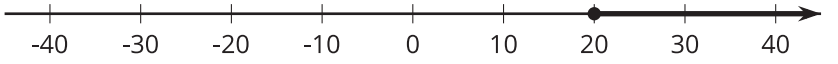
- A down jacket is rated as comfortable when the temperature is between -20°F and 20°F.
- A down sleeping bag is rated as comfortable when the temperature is -20°F or above.
- A synthetic sleeping bag is rated as comfortable when the temperature is 20°F or above.

1. What are 2 examples of temperatures that are comfortable for the down jacket?
2. For which gear would a temperature of -16.5°F be comfortable?
3. Is it possible to list all the temperatures for which the down jacket is comfortable? Explain your reasoning.
4. Which item's comfort rating matches each inequality?
   a. $x \geq 20$
   b. $-20 \leq x$
   c. $-20 \leq x$ and $x \leq 20$
5. Here are five graphs of inequalities. Match each graph to a situation in this activity.

A



B



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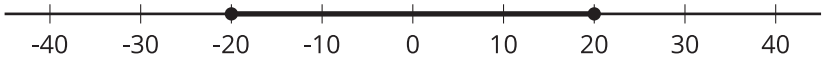

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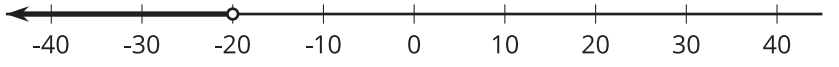

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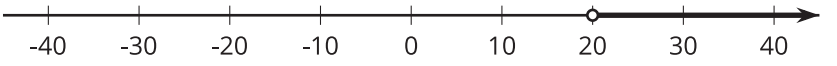

6. Are there any temperatures at which the sleeping bags and the jacket would all be comfortable?

7. Write one or more inequalities representing the range of temperatures in your area in the winter. Which gear, if any, would you recommend based on that?

3 Representing Inequalities

Student Task Statement

For each statement, write an inequality to represent it. If a variable is used, be prepared to explain what it represents.

1. Han has 5 pencils, and Andre has 8.
2. Noah has more books than Kiran.
3. Clare has more than $200 in her savings account.
4. The most the mechanic will charge for an oil change is $60.
5. Diego scored 1,200 points in a game, breaking the record for highest score.
6. Jada is younger than Tyler.
7. Animal World has at least 400 different species of animals.
8. Mai’s bowling score is more than Clare’s and Han’s combined.