Fill in each ◯ **with <, >, or = to make a true statement.** (Example 1)

1. 17 ⬸<⬿ 31

2. −6 ⬸>⬿ −10

3. −83 ⬸<⬿ −38

4. Andrew and his father are scuba diving at −38 feet and Tackle Box Canyon has an elevation of −83 feet. Write an inequality to compare the depths. Explain the meaning of the inequality. (Example 2)

   −38 > −83; Tackle Box Canyon is located at a greater depth than Andrew's location.

5. **STEM** The daily low temperatures in Kate's hometown last week were 2°C, −9°C, −18°C, −6°C, 3°C, 0°C, and −7°C. Order the temperatures from greatest to least. (Examples 3 and 4)

   3°C, 2°C, 0°C, −6°C, −7°C, −9°C, and −18°C

6. 🅮 **Building on the Essential Question** How can symbols and absolute value help you to order sets of integers?

   Sample answer: Positive numbers have a greater value than negative numbers. You can use absolute value to determine the distance of a number from 0.

Rate Yourself!

How confident are you about comparing and ordering integers? Shade the ring on the target.

I'm on target.

I need help.

For more help, go online to access a Personal Tutor. Tutor 💬

FOLDABLES Time to update your Foldable!

Fill in each ⬭ with <, >, or = to make a true statement. (Example 1)

1. $-2 \boxed{>} -4$

2. $1 \boxed{>} -3$

3. $5 \boxed{>} 0$

4. Amy is building a house. The basement floor is at -15 feet. The roof of the house is above the ground 25 feet. Write an inequality to compare the heights. Explain the meaning of the inequality. (Example 2)

   $-15 < 25$; The roof of the house is at a greater height than the basement floor.

5. The low temperature in Anchorage, Alaska, one day was $-9°F$. On the same day, the low temperature in Flagstaff, Arizona, was $26°F$. Write an inequality to compare the temperatures. Explain the meaning of the inequality. (Example 2)

   $-9 < 26$; The temperature in Flagstaff, Arizona, was warmer.

Order each set of integers from least to greatest. (Example 3)

6. $\{15, 17, 21, 6, 3\}$

   3, 6, 15, 17, 21

7. $\{-55, 143, 18, -79, 44, 101\}$

   $-79, -55, 18, 44, 101, 143$

8. The table indicates Xavier's cell phone use over the last four months. Positive values indicate the number of minutes he went over his allotted time, and negative values indicate the number of minutes he was under. Arrange the months from least to most minutes used. (Example 4)

February, May, April, March

Month	Time (min)
February	−156
March	12
April	0
May	−45

9. **CCSS** **Use Math Tools** Refer to the table and the following information. The apparent magnitude of an object measures how bright the object appears to the human eye. A negative magnitude identifies a brighter object than a positive magnitude.

a. Which object appears the brightest to the human eye?

Sun

b. Order the objects from the brightest to the faintest.

Sun, 100-Watt Bulb, Full Moon, Venus, Andromeda
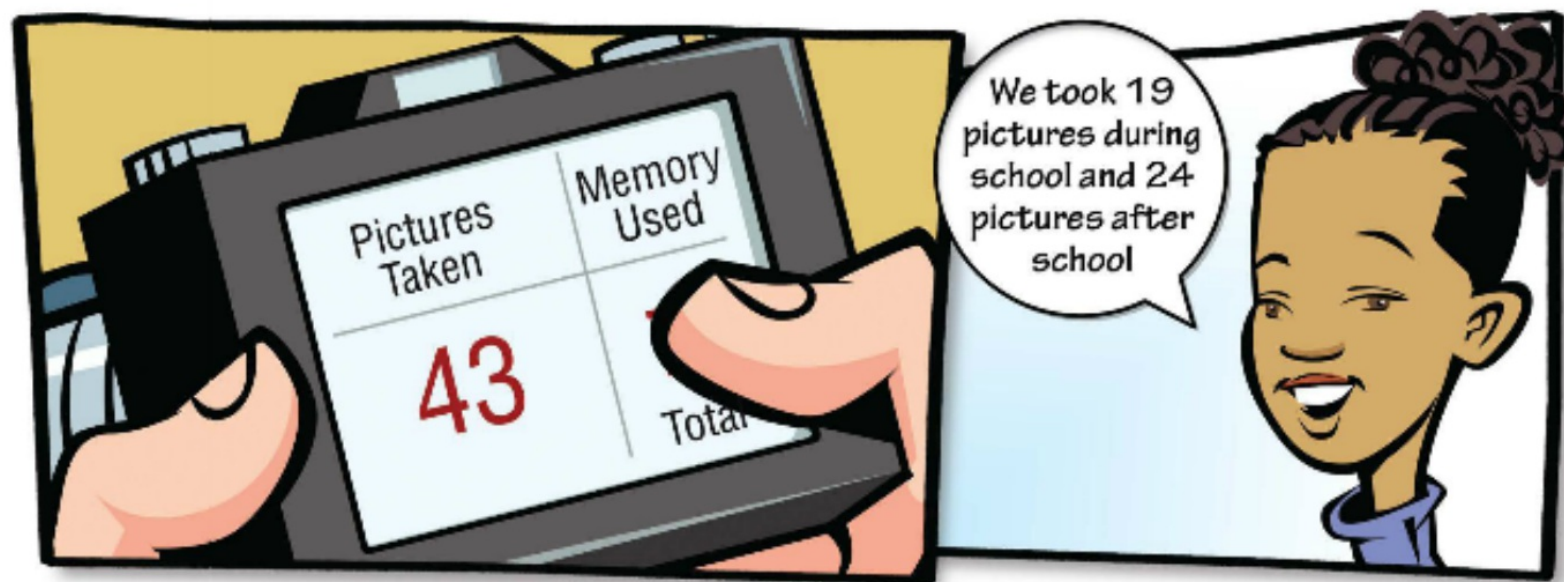
Galaxy, Alpha Centauri

c. Find the least apparent magnitude of this data set.

−27

Object	Approximate Apparent Magnitude
100-Watt Bulb	−19
Alpha Centauri	4
Andromeda Galaxy	0
Full Moon	−13
Sun	−27
Venus	−5

10. **CCSS** **Justify Conclusions** Refer to the graphic novel frame below for exercises a–c.

a. The memory card holds 65,536 kilobytes. If each picture is about 760 kilobytes, about how many more pictures can they take? **43 pictures**

b. Write an inequality to compare the number of pictures taken during school to the number of pictures taken after school. **19 < 24**

c. Explain the meaning of the inequality. **More pictures were taken after school.**

11. ⟨CCSS⟩ **Model with Mathematics** Write a real-world situation to explain the inequality $-\$15 < \$7$. **Sample answer: Elise owes her brother $15. Jacob has $7. Elise has less money than Jacob.**

12. ⟨CCSS⟩ **Reason Abstractly** Explain why -11 is less than -7, but $|-11|$ is greater than $|-7|$. **Sample answer: Since -11 is to the left of -7 on a number line, $-11 < -7$. But since -11 is a greater distance from zero than -7, $|-11| > |-7|$.**

13. ⟨CCSS⟩ **Persevere with Problems** Order the fractions $-\frac{1}{2}, \frac{5}{2}, -\frac{12}{4}, \frac{1}{6},$ and $\frac{7}{8}$ from least to greatest. **$-\frac{12}{4}, -\frac{1}{2}, \frac{1}{6}, \frac{7}{8}, \frac{5}{2}$**

14. ⟨CCSS⟩ **Persevere with Problems** Find all integers that make $|n| < 3$ a true statement. Then graph the integers on the number line. **$-2, -1, 0, 1, 2$**