

## 11-1 Ordering Integers - Practice and Problem Solving

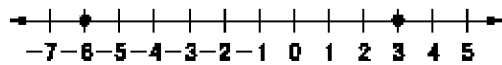
Replace each  $\bullet$  with  $<$  or  $>$  to make a true sentence.

11.  $-2 \bullet 4$

$<$

13.  $-6 \bullet 3$

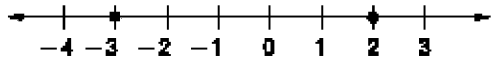
Graph  $-6$  and  $3$  on a number line. Then compare.



Since  $-6$  is to the left of  $3$ ,  $-6 < 3$ .

15.  $-3 \bullet 2$

Graph  $-3$  and  $2$  on a number line. Then compare.



Since  $-3$  is to the left of  $2$ ,  $-3 < 2$ .

Order each set of integers from least to greatest.

17. 14, 1, 6, 23, 14, 5

1, 5, 6, 14, 14, 23

19.  $-221, 63, 54, -89, -71, -10$

$-221, -89, -71, -10, 54, 63$

21. **TRAINS** Gary, Sindhu, and Beth are all waiting for their trains to arrive. Gary's train leaves at 5 minutes before noon, Sindhu's leaves at 25 minutes after noon, and Beth's leaves 5 minutes before Sindhu's train. Order the three by who will leave first.

Gary, Beth, Sindhu; the person whose train is before noon (Gary) leaves first, then Beth, Sindhu

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**LIGHT** 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.

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

Source: *Astronomy: A Self-Teaching Guide*

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

Since a negative magnitude identifies a brighter object, the smallest number will appear the brightest. So the sun is the brightest.

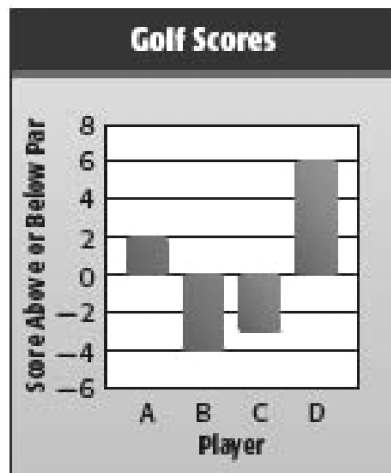
25. Find the median apparent magnitude of this data set.

A full moon and Venus are the two objects in the middle of apparent magnitude. To find the median find the center of these two numbers.

$$\begin{aligned} &= \frac{-13 + -5}{2} \\ &= \frac{-18}{2} \\ &= -9 \end{aligned}$$

**GOLF** Use the bar graph and the information below.

The bar graph gives the scores of four golfers (A, B, C and D). The numbers indicate scores above and below par.



27. Which player had the worst score? Explain your answer.

D; Since  $-4 < -3 < 2 < 6$ , player D had the most strokes over par.

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29. **NUMBER SENSE** Explain why  $-11$  is less than  $-7$ .

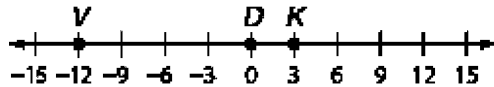
Sample answer: Since  $-7$  is to the right of  $-11$  on a number line,  $-11 < -7$

31. **WRITING IN MATH** In your own words, explain how to list integers from greatest to least.

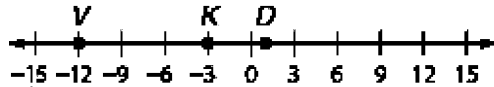
Sample answer: Graph them on a number line and then write the integers as they appear from right to left.

33. Veronica (V) was 12 minutes early to class, Deshawn (D) was right on time, and Kendis (K) was 3 minutes late. Which time line represents the students' arrival to class?

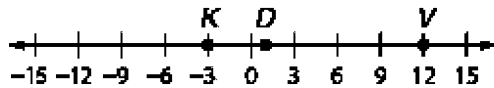
F



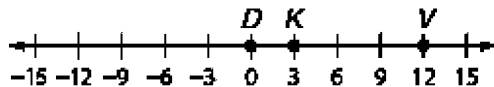
G



H



J



Write the order in which the students came to class.

Veronica, Deshawn, Kendis

Look for a matching time line.

The answer is F.

35. **ROOMS** A living room is in the shape of a rectangular prism. If the dimensions of the living room are 15.5 feet by 20 feet by 8 feet, how many cubic feet of space does the room occupy?

$$\begin{aligned} V &= \ell wh \\ &= (15.5)(20)(8) \\ &= 2,480 \end{aligned}$$

Add or subtract. Write in simplest form.

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37.  $5\frac{2}{3} - 3\frac{1}{3}$

$$\begin{aligned} 5\frac{2}{3} - 3\frac{1}{3} &= \frac{5 \times 3 + 2}{3} - \frac{3 \times 3 + 1}{3} \\ &= \frac{17}{3} - \frac{10}{3} \\ &= \frac{7}{3} \\ &= \frac{6}{3} + \frac{1}{3} \\ &= 2\frac{1}{3} \end{aligned}$$

39.  $3\frac{3}{8} + 1\frac{6}{8}$

$$\begin{aligned} 3\frac{3}{8} + 1\frac{6}{8} &= \frac{3 \times 8 + 3}{8} + \frac{1 \times 8 + 6}{8} \\ &= \frac{27}{8} + \frac{14}{8} \\ &= \frac{41}{8} \\ &= \frac{40}{8} + \frac{1}{8} \\ &= 5\frac{1}{8} \end{aligned}$$

**PREREQUISITE SKILL** Add or subtract.

41.  $6 - 4$

$$6 - 4 = 2$$

43.  $10 - 3$

$$10 - 3 = 7$$