Lesson 2.2   Absolute Value

Draw a number line from −8 to 8. Then use the number line to find the absolute value of each of the following numbers.

1. |−7| _____   **2.** |−3| _____   **3.** |8| _____

Write the absolute value of each number.

4. |−9| _____   **5.** |−2| _____   **6.** |100| _____

7. |−299| _____   **8.** |802| _____   **9.** |−341| _____

Complete each inequality using > or <.

10. |−18| ☐ |−24| **11.** |−30| ☐ |−40|

12. |100| ☐ |−200| **13.** |−280| ☐ |190|

14. |−650| ☐ |−480| **15.** |570| ☐ |−400|

Answer the questions.

16. Two numbers have an absolute value of 37. Which of the two numbers is farther from 1 on the number line?

17. Keith has −$190 in his savings account. Aisha has $80 in her savings account and Sonya has −$250 in her savings account.

a) Who has the most amount of money in their savings account?

b) Who has the least amount of money in their savings account?

18. A helicopter is flying at 155 meters above sea level. A flock of birds is flying 80 meters below the helicopter. A submarine is 185 meters below sea level. A group of divers are diving along a reef at 162 meters above the submarine.

a) What is the vertical distance between the helicopter and the submarine?

b) How far below sea level are the divers?

c) How far above the divers is the flock of birds?

d) Which is closer to the sea level: the divers or the birds? By how many meters?

e) Which is closer to the divers: the helicopter or the submarine? By how many meters?

f) Order the helicopter, birds, divers, and submarine from the closest to sea level to the farthest.

20. < **21.** >
22. < **23.** >
24. < **25.** <
26. < **27.** >
28. > **29.** >
30. < **31.** <
32. −200, −110, −25, 0, 23, 48
33. −509, −210, −20, 8, 52, 201
34. 90, 55, 10, −45, −80, −120
35. −327, −61, −24, 25, 42, 108
36. Jose → 50 − 120 = −70
Ling → 50 − 80 = −30
−70 < −30
Jose has fewer points than Ling.

Lesson 2.2

$$\xleftarrow{\quad\begin{array}{ccccccccccccccccc} | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | \\ -8 & -7 & -6 & -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \end{array}\quad}\rightarrow$$

1. 7 **2.** 3
3. 8 **4.** 9
5. 2 **6.** 100
7. 299 **8.** 802
9. 341 **10.** <
11. < **12.** <
13. > **14.** >
15. > **16.** −37
17. a) Aisha **b)** Sonya
18. a) 155 + |−185| = 340 meters
   b) |−185| − 162 = 23 meters
     below sea level
   c) 155 − 80 = 75 meters
     |−23| + 75 = 98 meters
   d) Divers; 75 − |−23| = 52 meters
   e) Helicopter to divers →
     155 + |−23| = 178 meters
     Submarine to divers →
     |−185| − |−23| = 162 meters
     Submarine; 178 − 162 = 16 meters
   f) Divers, birds, helicopter, submarine

Brain @ Work

1. a) Friday has the greatest difference
     in temperature: 12°C.
   b) Monday has the least difference
     in temperature: 5°C.
   c) Highest → 5°C;
     Lowest → −10°C
     Difference → 5 + |−10|
            = 15°C

d)

Vertical number line from 5 at top down to −10 at bottom with points marked.

Chapter 3

Lesson 3.1
1. 6 **2.** 18
3. 5 **4.** 10
5. 2 **6.** 1
7. 20 **8.** 9
9. 5 **10.** 14
11. $2\frac{2}{3}$ **12.** $2\frac{4}{7}$
13. 20 **14.** $17\frac{1}{2}$
15. $3\frac{3}{4}$ **16.** $10\frac{1}{2}$
17. 8 **18.** $\frac{2}{5}$
19. $\frac{8}{15}$ **20.** $1\frac{1}{2}$
21. $2\frac{1}{4}$ **22.** $4\frac{1}{8}$
23. $1\frac{1}{3}$ **24.** $\frac{7}{10}$
25. $6 \div \frac{3}{4} = 8$
Gina has 8 pieces of ribbon.
26. $3 \div \frac{3}{16} = 16$
It will take Eve 16 days to drink
3 gallons of milk.
27. 1 sheet → $12 \div \frac{1}{3} = 36$
3 sheets → 36 × 3 = 108
There are 108 pieces altogether.
28. $\frac{80}{7} \div \frac{10}{14} = 16$
There are 16 children.

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Extra Practice Course 1A **93**