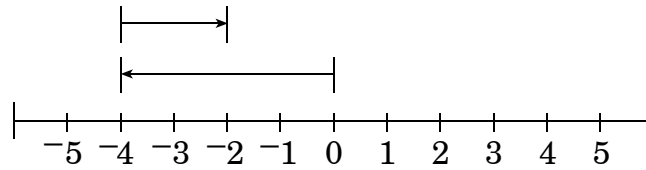


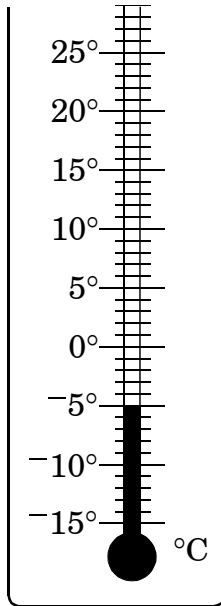
1. The distance from Asheville to Wilmington is 327 miles. In traveling from Asheville to Wilmington and back to Asheville, what would be the total distance expressed in scientific notation?
- A 3.27×10^2 mi
B 32.7×10 mi
C 6.54×10^2 mi
D 65.4×10 mi
2. The length of the orbit for Jupiter is 1.12×10^6 km. What is this distance written in standard form?
- A 112,000 km
B 1,120,000 km
C 11,200,000 km
D 112,000,000 km
3. Earth is about 93,000,000 miles from the sun. What is this distance expressed in scientific notation?
- A 9.3×10^7 mi
B 0.93×10^7 mi
C 9.3×10^6 mi
D 93×10^6 mi
4. The circumference of the Earth is about 4×10^4 kilometers. What is the circumference of the Earth in meters?
- A 400,000,000 m
B 40,000,000 m
C 4,000,000 m
D 40,000 m
5. Which of the following is true?
- A $\frac{1}{4} > 1\frac{1}{2}$
B $-4 < -5$
C $-5\frac{1}{2} > 3\frac{1}{2}$
D $-1 < -\frac{1}{2}$

6. Which number sentence below models the problem shown on the number line?

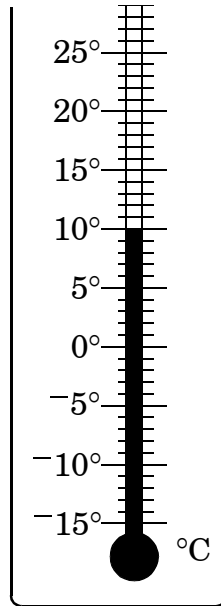


- A $-2 + -4$
- B $-5 + 3$
- C $5 + -3$
- D $-4 + 2$
-
7. The current temperature of 10 degrees below zero (Fahrenheit) is 24 degrees below the high temperature for the day. What was the high temperature for the day?
- A 34°F
- B 24°F
- C 14°F
- D -14°F
8. In Siberia, a record high temperature of 98°F has been reported. The record low temperature is 192 degrees lower than the record high temperature. What was the *coldest* Siberian temperature?
- A -290°F
- B -94°F
- C 94°F
- D 106°F

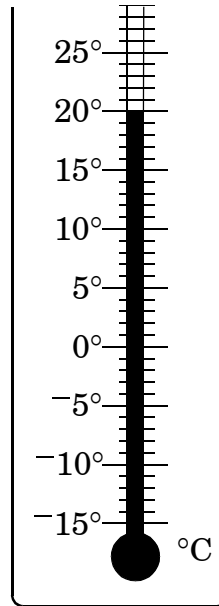
9. The thermometers below show the Celsius temperatures of four different solutions.



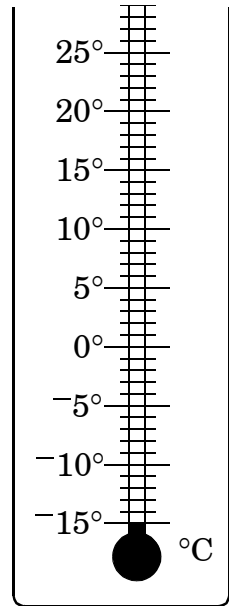
Solution A



Solution B



Solution C



Solution D

What is the range of the temperatures of the solutions?

- A -5°C
- B 5°C
- C 20°C
- D 35°C

10. A city's daily low temperatures in January fluctuated between -7°F and 2°F . What was the temperature range?
- A 2°F
B 5°F
C 7°F
D 9°F
11. A truck has traveled 75 miles in 1.5 hours. Which proportion can be used to determine how long, T (in hours), it would take the truck to travel 325 miles, assuming it is moving at the same speed?
- A $\frac{1.5}{325} = \frac{75}{T}$
B $\frac{325}{1.5} = \frac{75}{T}$
C $\frac{325}{75} = \frac{1.5}{T}$
D $\frac{75}{325} = \frac{1.5}{T}$
12. Mr. Williams mixes white and brown paint in the ratio of 8:2. If he uses 15 quarts of white paint, how many quarts of brown paint will he need?
- A 3.25
B 3.5
C 3.75
D 4
13. Mrs. Patterson purchased 5 trays of flowers to plant in the school's flowerbeds. The total cost was \$54.75. Each tray contained 2 dozen individual plants. After planting all of the flowers, Mrs. Patterson decided she needed an additional 18 plants. If the plants are priced individually, **about** how much should she expect to pay for the additional flowers?
- A \$7
B \$8
C \$9
D \$10

14. A cereal box contains 499 grams of cereal. If one serving is equal to 27 grams, which proportion could be used to find the number of servings per box?

A $\frac{x}{499} = \frac{1}{27}$

B $\frac{x}{499} = \frac{27}{1}$

C $\frac{499}{27} = \frac{27}{x}$

D $\frac{499}{x} = \frac{1}{27}$

15. Betty's mother bought a house for \$79,500. She had enough money for a 15% down payment. How much of the \$79,500 did she have to borrow from the bank to pay for the house?

A \$67,575

B \$69,575

C \$78,000

D \$91,425

16. A department store is having a 50%-off sale on tennis shoes. If the original price of a pair of shoes was \$78, what is the sale price of the shoes?

A \$28

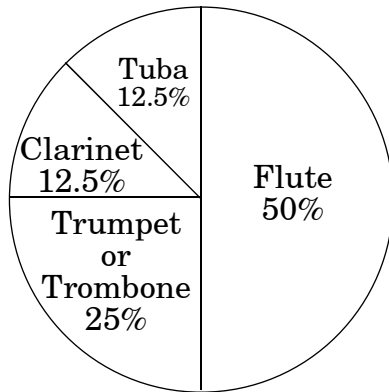
B \$39

C \$50

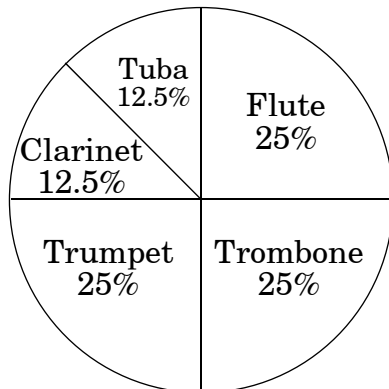
D \$78

17. According to these two circle graphs, which statement is correct?

**Band Instruments Used By
80 Seventh-Grade Girls**



**Band Instruments Used By
160 Seventh-Grade Boys**



- A The same number of boys and girls play the flute.
- B The flute is played by more girls than boys.
- C The number of boys playing either the tuba or the clarinet is the same as the number of girls playing the tuba or the clarinet.
- D Fifty girls play the flute.

18. The photo lab for the *Cary News* reduces each side of a photograph by 20%. The original size of the photo is 8 inches \times 10 inches. What are the dimensions of the reduced photo?

- A 6 inches \times 8 inches
- B 6.4 inches \times 8 inches
- C 7.4 inches \times 8 inches
- D 7.8 inches \times 9.8 inches

19. Christopher's square sandbox has 36 square feet of playing space. It was constructed using 4 boards. One of the sandbox's boards needs to be replaced. What length board should Christopher's father cut to repair the side of the sandbox?

- A 3 feet
- B 6 feet
- C 9 feet
- D 12 feet

20. A 6-ounce box of strawberry gelatin costs \$.90 and a 3-ounce box costs \$.42. What is the difference in cost per ounce between the larger and the smaller boxes?

- A \$.04
- B \$.03
- C \$.01
- D no difference

21. Four stores have a sale on the same camera. Which store is offering the **best** buy?
- A Store 1: 20% off the regular price of \$65
- B Store 2: 22% off the regular price of \$65
- C Store 3: $\frac{1}{4}$ off the regular price of \$65
- D Store 4: $\frac{1}{5}$ off the regular price of \$65

22. Bob has a board that is 5 feet long. He needs a piece that measures 4 feet $5\frac{1}{4}$ inches long for a bookshelf. How much board will be left?
- A $6\frac{1}{4}$ in.
- B $6\frac{3}{4}$ in.
- C $7\frac{1}{4}$ in.
- D $7\frac{3}{4}$ in.

23. A dozen roses costs \$33.00. At this rate, what is the cost of 3 roses?
- A \$27.00
- B \$10.91
- C \$8.25
- D \$4.00

End of Goal 1 Sample Items

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Answers to EOG Mathematics Grade 7 Sample Items

Goal 1

- 1. Objective 1.01**
Write whole numbers in scientific notation; convert scientific notation to standard form; investigate the use of scientific notation.
Thinking Skill: Applying **Correct Answer:** C
- 2. Objective 1.01**
Write whole numbers in scientific notation; convert scientific notation to standard form; investigate the use of scientific notation.
Thinking Skill: Analyzing **Correct Answer:** B
- 3. Objective 1.01**
Write whole numbers in scientific notation; convert scientific notation to standard form; investigate the use of scientific notation.
Thinking Skill: Applying **Correct Answer:** A
- 4. Objective 1.01**
Write whole numbers in scientific notation; convert scientific notation to standard form; investigate the use of scientific notation.
Thinking Skill: Applying **Correct Answer:** B
- 5. Objective 1.02**
Compare and order rational numbers.
Thinking Skill: Analyzing **Correct Answer:** D
- 6. Objective 1.03**
Model addition, subtraction, multiplication, and division of integers; record.
Thinking Skill: Analyzing **Correct Answer:** D
- 7. Objective 1.04**
Compute with integers.
Thinking Skill: Applying **Correct Answer:** C
- 8. Objective 1.04**
Compute with integers.
Thinking Skill: Applying **Correct Answer:** B
- 9. Objective 1.04**
Compute with integers.
Thinking Skill: Analyzing **Correct Answer:** D

Answers to EOG Mathematics Grade 7 Sample Items

Goal 1

10. **Objective 1.04**
Compute with integers.
Thinking Skill: Analyzing **Correct Answer:** D
11. **Objective 1.05**
Write and solve proportions.
Thinking Skill: Analyzing **Correct Answer:** D
12. **Objective 1.05**
Write and solve proportions.
Thinking Skill: Applying **Correct Answer:** C
13. **Objective 1.05**
Write and solve proportions.
Thinking Skill: Applying **Correct Answer:** B
14. **Objective 1.05**
Write and solve proportions.
Thinking Skill: Analyzing **Correct Answer:** A
15. **Objective 1.06**
Estimate and solve problems using ratio, proportion and percent including discounts, taxes, commissions, and simple interest.
Thinking Skill: Applying **Correct Answer:** A
16. **Objective 1.06**
Estimate and solve problems using ratio, proportion and percent including discounts, taxes, commissions, and simple interest.
Thinking Skill: Applying **Correct Answer:** B
17. **Objective 1.06**
Estimate and solve problems using ratio, proportion and percent including discounts, taxes, commissions, and simple interest.
Thinking Skill: Applying **Correct Answer:** A
18. **Objective 1.06**
Estimate and solve problems using ratio, proportion and percent including discounts, taxes, commissions, and simple interest.
Thinking Skill: Applying **Correct Answer:** B

Answers to EOG Mathematics Grade 7 Sample Items

Goal 1

19. Objective 1.07

Use geometric models to develop the meaning of the square of a number and its positive square root; investigate and estimate square root, checking the results with a calculator.

Thinking Skill: Analyzing

Correct Answer: B

20. Objective 1.08

Analyze and select appropriate operations, models, strategies and methods to solve a variety of multi- step problems using positive rational numbers, integers, and their inverses. Use calculators and computers where appropriate.

Thinking Skill: Applying

Correct Answer: C

21. Objective 1.08

Analyze and select appropriate operations, models, strategies and methods to solve a variety of multi- step problems using positive rational numbers, integers, and their inverses. Use calculators and computers where appropriate.

Thinking Skill: Applying

Correct Answer: C

22. Objective 1.08

Analyze and select appropriate operations, models, strategies and methods to solve a variety of multi- step problems using positive rational numbers, integers, and their inverses. Use calculators and computers where appropriate.

Thinking Skill: Applying

Correct Answer: B

23. Objective 1.08

Analyze and select appropriate operations, models, strategies and methods to solve a variety of multi- step problems using positive rational numbers, integers, and their inverses. Use calculators and computers where appropriate.

Thinking Skill: Applying

Correct Answer: C