Mathematics

1 A student drew a quadrilateral with one right angle. The student then divided the quadrilateral into two triangles. The student measured one angle in one of the triangles as shown in the figure.
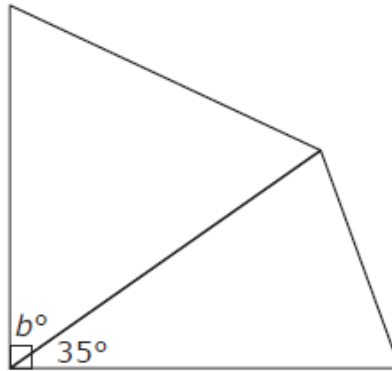
Which solution path could the student use to find the value of b without measuring the angle?

A add 35 to 90

B divide 90 by 35

C multiply 35 by 90

D subtract 35 from 90

2 A student rounded 3872 to the nearest hundred and to the nearest thousand. The student noticed that the results, 3900 and 4000, were not equal. The student claimed that the two results will never be equal when a number is rounded to the nearest hundred and to the nearest thousand.

Which **two** numbers could be used to show that the student's claim is incorrect?

Select the **two** correct answers.

A 43,594

B 55,962

C 67,299

D 72,357

E 81,974

3 A train museum has a toy train that goes around the entire museum. The train goes around 10 times in 2 hours.

A student calculated the amount of time it takes for the train to go around 1 time. The work is shown.

$$2 \text{ hours} \div 10 = 0.2 \text{ hour}$$

0.2 is the same as 0.20, so it takes
20 minutes for the train to go around 1 time.

The student's work is incorrect.

- Explain any errors in the student's work.
- Explain how to correct the student's work and find the amount of time it takes for the train to go around the museum 1 time.

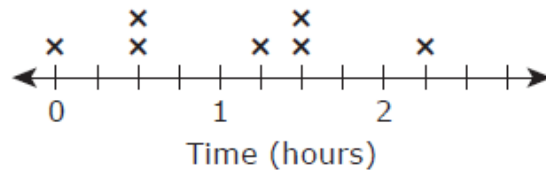Enter your answer and your work or explanation in the space provided.

⊞ Mathematics

4 Last week, a student kept track of how long he practiced soccer each day.

The line plot shows the student's data.

Which three questions can be answered using the information in the line plot?

Select the **three** correct answers.

A What was the greatest amount of time that the student practiced on any day last week?

B What was the total amount of time the student practiced last week?

C On which day last week did the student practice the longest?

D Did the student practice more last week or the week before?

E How many days last week did the student not practice?

5 The figure shows the dimensions of a rectangular floor. The two openings represent doors. Each door is 3 feet wide.

18 feet

Door

14 feet
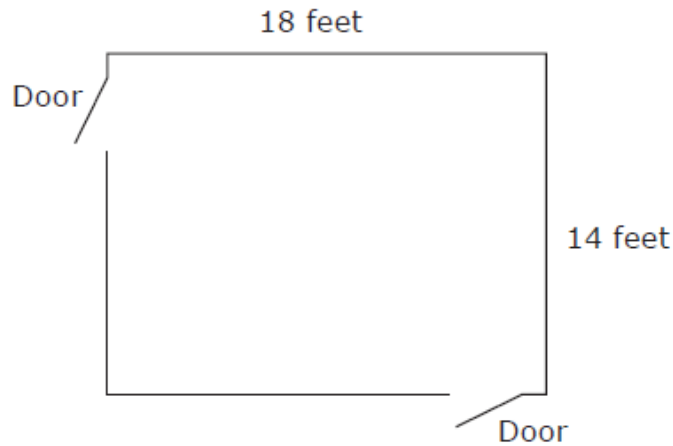
Door

A contractor will buy baseboards to place around the entire floor, except for the doors. Each baseboard is 8 feet long and costs $11.

Find the total cost of the baseboards the contractor needs to buy for the room.

Enter your answer and your work or explanation in the space provided.

Mathematics

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6 A student used these models to compare the fractions $\frac{7}{12}$ and $\frac{6}{8}$. The student incorrectly claimed that $\frac{7}{12} > \frac{6}{8}$ because more sections are shaded in the model that represents the fraction $\frac{7}{12}$ than in the model that represents the fraction $\frac{6}{8}$.

$$\frac{7}{12} \qquad > \qquad \frac{6}{8}$$
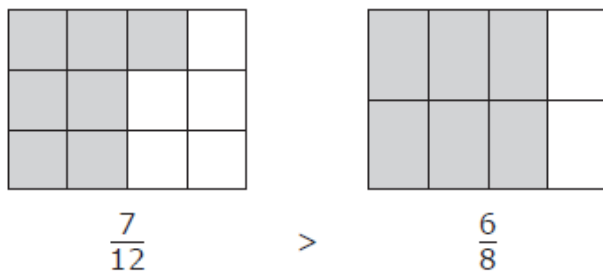
Which statements explain why the claim is incorrect?

A The student only compared the numerators. The student should have compared the number of parts and the shape of each part in each model.

B The student only compared the denominators. The student should have compared the number of parts and the shape of each part in each model.

C The student only compared the numerators. The student should have compared the number of shaded parts and the size of each part in each model.

D The student only compared the denominators. The student should have compared the number of shaded parts and the size of each part in each model.

Answers

Section 2

Item Number	Answer Key
1.	D
2.	B, E
3.	**Sample Top Score Response** The student divided correctly, but 0.20 hour is not the same as 20 minutes. 0.20 hour is $\frac{2}{10}$ of an hour and 20 minutes is $\frac{1}{3}$ of an hour. Before dividing by 10, the student could have changed 2 hours to 120 minutes. 120 minutes ÷ 10 = 12 minutes. So it takes 12 minutes for the train to go around the museum 1 time. **Refer to the Holistic Rubric for 3-Point Reasoning Constructed Response Items for score point information.**
4.	A, B, E

Answers

Item Number	Answer Key
5.	**Sample Top Score Response** The perimeter of the floor is $18 + 14 + 18 + 14 = 64$ feet. The width of the two doors needs to be subtracted. There are 2 doors with a width of 3 feet. The total width is $2 \times 3 = 6$ feet. So the length of baseboards, in feet, that are needed is $64 - 6 = 58$. The length of each baseboard is 8 feet. $58 \div 8 = 7\frac{1}{4}$ feet, so the contractor needs to buy 8 baseboards. The total cost, in dollars, is $8 \times 11 = 88$. **Refer to the Holistic Rubric for 3-Point Modeling Constructed Response Items for score point information.**
6.	C