

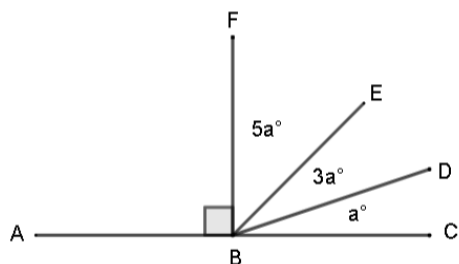
Chapter 3

Rates, Ratios, and Proportions on the SAT

PRE TEST

1.)

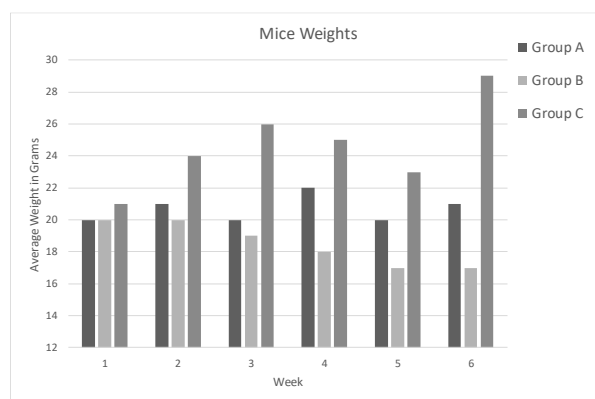
If B is a point on \overline{AC} , what is $m\angle CBE$?



- A) 10
- B) 30
- C) 40
- D) 50

2.)

A researcher is collecting data on how different types of food impact the weights of mice. She separates her mice into 3 equal groups (A, B, and C) and give each group food A, B, and C, respectively for the duration of the study. She then measures their weights each week of the study.



Of the following, which is closest to the ratio of the weights of the mice in Group A in week 4 to the weights of the mice in Group B in week 4?

- A) 1 to 1
- B) 9 to 11
- C) 11 to 9
- D) 21 to 20

3.)

Ibrahim will mix x milliliters of a 15% hydrochloric acid solution with y milliliters of a 30% hydrochloric acid solution in order to create a 22% hydrochloric acid solution. The equation below represents the process:

$$.15x + .3y = .22(x + y)$$

If Ibrahim used 50 milliliters of the 15% hydrochloric acid solution, how many milliliters of the 30% solution did he use. (Round to the nearest milliliter.)

- A) 30
- B) 44
- C) 57
- D) 101

4.)

Elon Musk can drive his Tesla at 205 miles per hour on his test track in Florida. What is Elon's speed in feet per second? (1 mile = 5280 feet. Round to the nearest whole number, and don't try this at home!)

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.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.)

If Elon Musk drove at 205 miles per hour along a track that was $\frac{3}{4}$ miles long, how many seconds did the drive take? (Round your answer to the nearest second when gridding it in.)

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0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Answer Key:

1.) C

2.) C

3.) B

4.) 301

5.) 13