

This review set is a selection of problems, but is not representative of everything that will be on the final exam. It is best to review ALL SECTIONS of the text to prepare for the final.

The final exam has 10 multiple-choice questions and 8 open-answer questions.

12.1

Consider this word problem: *During a trip to the mall, Jocelyn spent twice as much as Melissa but only one third as much as Stephanie. Together, they spent \$202.50. How much did each girl spend?*

If the following equation is used to solve the problem, what does  $x$  represent?  $x + 2x + 6x = 202.5$

Use five or more words: \_\_\_\_\_

If the following equation is used to solve the problem, what does  $x$  represent?  $\frac{1}{2}x + x + 3x = 202.5$

Use five or more words: \_\_\_\_\_

How much did each girl spend?

Jocelyn \_\_\_\_\_ Melissa \_\_\_\_\_ Stephanie \_\_\_\_\_

12.4

Use the table to write the function rule. Determine the value of  $n$ .

Show all steps of your work.

$x$	$f(x)$
1	9
2	16
3	23
4	30
.	.
.	.
$n$	156

$f(x) =$  \_\_\_\_\_  $n =$  \_\_\_\_\_

13.2

Determine which, if any, of the following are TRUE statements:

- I. The graph is a line with a negative slope.      II. The fuel tank is empty after 5 minutes.

- III. The y-intercept for the graph is 90.

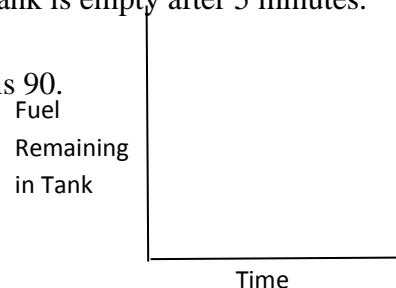
A. None of these are true

B. I and II only

C. II and III only

D. I and III only

E. I, II, and III



14.4

Select the best description of Wile E Coyote's trip as represented in the graph.

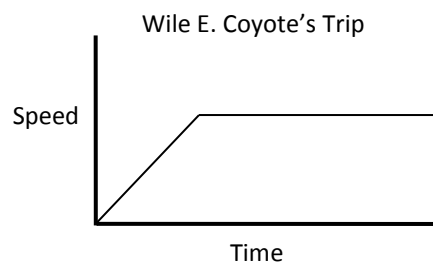
A. He steadily increased his speed; then stopped.

B. He went up a hill and then walked across the top of the hill.

C. He ran quickly away from home;  
then stayed at a constant distance from home.

D. He steadily increased his speed; then stayed at a constant high  
speed until he was out of sight.

E. He went diagonally across the park and then turned right and kept going.



15.1

A candle that was 14 cm when new has been burning for 6 minutes and is now 5 cm tall.

Determine an equation that could be used to represent the height of the candle  $h$  after the candle has burned  $t$  minutes.

15.5

In two Over & Back races of 60 m total distance each, Rabbit ran at the speeds listed below.

Turtle runs at the same speed over and back. What speed must Turtle run to tie Rabbit for the race?

a) Rabbit over: 20 m/s; Rabbit back: 5 m/s

b) Rabbit over: 3 m/s; Rabbit back: 30 m/s

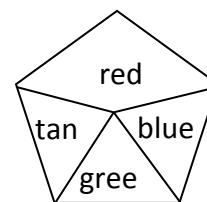
27.2

For the spinner at right (arrow not shown), what is the theoretical probability of:

a) getting red? \_\_\_\_\_

b) getting blue? \_\_\_\_\_

c) getting yellow? \_\_\_\_\_



How many times would you expect to get green in 800 spins? \_\_\_\_\_

Is it possible to get tan 180 times in 800 spins? Circle one:      **yes**      **no**

28.4

A group of students completed a survey and the results are shown in the table. Use the table to find the probabilities and conditional probabilities indicated if a name of one of the students is chosen at random. Round your answers to the nearest tenth of a percent.

	Use the Co-Rec (U)	Do Not use the Co-Rec (D)	totals
Male (M)	40	100	140
Female (F)	20	90	110
totals	60	190	

$P(M) =$  \_\_\_\_\_

$P(U) =$  \_\_\_\_\_

$P(M|U) =$  \_\_\_\_\_

$P(D|F) =$  \_\_\_\_\_

$P(U|M) =$  \_\_\_\_\_

29.2

The university is proposing to charge all fraternities and sororities a large fee to be “sanctioned” by the university. A person is standing outside a fraternity house taking a survey of undergraduate students to determine their opinion of the proposal. In what way will the results likely be biased? Why?

For a different survey, the student government wants to know whether undergraduate students approve of a new method of electronic balloting.

Describe a way to stratify the population so that the survey results reflect all segments of the population.

30.3

Margaret is trying to break her school basketball team’s record for the highest mean number of points per game. After 14 games, her mean number of points per game is 11.2. The school record is 10.5. How many points must she make in the 15<sup>th</sup> game to make sure she beats the old record?

- A. 11 points
- B. 10 points
- C. 1 point
- D. She doesn't need any points in the 15th game.
- E. It is not possible for her to beat the school record.

31.2

Are the following variables positively associated, negatively associated, or have no association? Circle your answer and give a brief explanation.

The number of medium pizzas ordered and the total cost of the order.

**positively**                      **negatively**                      **no association**

The number of members in the club and their mean GPA.

**positively**                      **negatively**                      **no association**

The outside temperature and the number of people wearing gloves.

**positively**                      **negatively**                      **no association**

32.2

One hundred sixty people were surveyed and the results indicated that 49% were in favor of a bond levy to build a new city recreation center. What confidence interval would the rule of thumb suggest?

- A. 39% to 59%
- B. 41% to 57%
- C. 46% to 52%
- D. 40% to 58%
- E. 43% to 55%

33.3

If there are 10 scrabble game tile pieces remaining to choose from and you select 4, how many different sets can you select? Show your work.

Answer: \_\_\_\_\_

If you have the letters E, F, H, O, and P, how many different four-letter arrangements are possible? Each arrangement may or may not form a word. Show your work.

Answer: \_\_\_\_\_