



El Camino College Compton Center Assessment Test Study Guide

Sample Questions

Section One: Reading Comprehension

The Reading Comprehension test measures how well the student understands what he/she reads. Some questions are of the sentence relationship type in which one must choose how two sentences are related. Other questions test recognizing distinctions between main and secondary points and making simple deductions from a series of facts. Specific skills to be tested are main ideas, supporting details, words in context, author's purpose and tone, relationship within and between sentences, fact and opinion, inferences, and conclusions.

1. Two underlined sentences are followed by a question or statement about them. Read each pair of sentences, and then choose the best answer to the question or the best completion of the statement.

The American prison system functions primarily to exact retribution.

In Japan, the courts are less concerned with sending people to jail than they are with rehabilitating them.

What does the second sentence do?

- A. It supports an idea found in the first sentence.
- B. It contrasts an idea that is expressed in the first sentence.
- C. It analyzes an idea made in the first sentence.
- D. It exemplifies an idea found in the first sentence.

From *Sociology* by Scott and Sally McNall

2. Read the statements or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

My parents' divorce was final. The house had been sold and the day had come to move. Thirty years of the family's life was now crammed into the garage. The two by fours that ran the length of the walls were the only uniformity among the clutter of boxes, furniture and memories. All was frozen in limbo between the life just passed and the one to come. I suddenly became aware of the coldness of the garage, but I didn't want to go back inside the house, so I made my way through the boxes to the couch. I cleared a space to lie down and curled up, covering myself with my jacket. I hoped my father would return soon with the truck so we could empty the garage and leave the cryptic silence of parting lives behind.

What is the author's mood?

- A. Melancholy
- B. Idealistic
- C. Vindictive
- D. Indignant

From *Limbo* by Rhonda Lucas

3. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

Australia has many strange beasts, one of the oddest of which is the koala. Perfectly adapted to one specific tree, the eucalyptus, this living teddy bear does not need anything else, not even a drink! The moisture in the leaves is just right for the koala, making it the only land animal that doesn't need water to supplement its food.

The passage indicates that the koala:

- A. is a member of the bear family that does not drink.
- B. is the only animal that does not need any water in addition to food.
- C. adapts itself to any surroundings.
- D. requires a single life source.

From *That Astounding Creator – Nature* by Jean George

4. Two underlined sentences are followed by a question or statement about them. Read each pair of sentences, and then choose the best answer to the question or the best completion of the statement.

Males and females are treated differently from grade school through college.

Therefore, this treatment of the sexes by school officials influences both the student's choice of career and level of performance.

How are the sentences related?

- A. The second sentence contradicts the first sentence.
- B. The second sentence shows a cause of the first sentence.
- C. The second sentence states an effect of the first sentence.
- D. The second sentence defines an idea found in the first sentence.

From *Sociology* by Scott and Sally McNall

5. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

While silk-stocking Manhattan is asleep, East Harlem is starting to bustle. The poor are early risers. They have the jobs other don't want: the early hour jobs, the later hour jobs. The streets are filled with fast moving people: men, women, and swarms of children of all sizes. Some will stand at the bus stops, but most will crowd into the downtown subways that speed them to jobs to serve the affluent. East Harlem is the a busy place, night and day, filled with the joyous and troubled lives of residents – rather than the heavy commercial traffic of mid-Manhattan. There is so much togetherness.

The main idea of this passage is that the residents of East Harlem:

- A. are dissatisfied with their jobs.
- B. are poorer than Manhattan's residents.
- C. share common struggles and goals.
- D. disdain the rich of Manhattan.

From *A day in East Harlem* by Patricia Cayo Sexton

6. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

In embarking on the fight for independence, America faced formidable obstacles. The Continental Congress did not have the authority to pass binding legislation or to impose taxes. The new nation had no army and no navy, and its population numbered only 2.5 million people, 20 percent of whom were slaves. Britain by contrast, was a might power of 11 million people with the world's best navy and a well disciplined army. Fifty thousand troops were in North America in 1776, and Britain hired thirty thousand German soldiers to supplement its forces during the war. However, the American Revolutionaries were not deterred.

What is the main point of this passage?

- A. Britain was a great power whose population outnumber that of America's.
- B. America's military forces were less experienced than Britain's military.
- C. America's continental congress had limited authority.
- D. As America was about to engage in its struggle for autonomy, it was faced with arduous barriers.

From *An American History* by Brooks Gruver

7. Two underlined sentences are followed by a question or statement about them. Read each pair of sentences, and then choose the best answer to the questions or the best completion of the statement.

The function and meaning of the American family have changed over time.

There is now a stronger emphasis on romantic love between parents and an increase in the number of mothers in the workforce.

What does this sentence do?

- A. It gives examples.
- B. It states effects.
- C. It contradicts ideas found in the first sentence.
- D. It makes a comparison to the first statement.

From *Sociology* by Scott and Sally McNall

8. Two underlined sentences are followed by a question or statement about them. Read each pair of sentences, and then choose the best answer to the questions or the best completion of the statement.

The Midwest is experienced its worst drought in fifteen years.

Corn and soybean prices are expected to be very high this year.

What does this sentence do?

- A. It restates the idea found in the first.
- B. It states an effect.
- C. It gives an example.
- D. It analyzes the statement made in the first.

From The College Board

9. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

Elements are basic substances that cannot be broken down into anything simpler, and an atom is the smallest unit of an element. Compounds are combinations of two or more elements and can be broken down into simpler substances. Compounds are formed when atoms are held together by an attractive force called a chemical bond. A molecule is the smallest unit of a compound, or a gaseous element, that can exist and still retain the characteristic properties of a substance.

According to the passage, compounds

- A. require a chemical bond.
- B. develop when the smallest unit of an element is broken down.
- C. are formed when elements combine with atoms.
- D. are the basics units of molecules.

From *Introduction to Physics and Chemistry* by Bill Tillery

10. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

It is early summer. August's long awaited vacation time still seems ages away, but by the same token, its torpor producing heat and mildew-generating humidity have not yet arrived. Instead, these cool, end of June days practically insist on getting the picnic season under way immediately. But, alas, there is a difficulty: alfresco dining has a bad name among us. Tenth rate hot dogs, carbonized chicken parts and beef a la charcoal lighter are principally what come to mind when we hear the words "outdoor food. "

This passage suggests that the author believes that

- A. picnicking is the best way to spend the summer.
- B. August is better than June for a picnic.
- C. picnicking has an unsavory reputation.
- D. picnicking is better than alfresco.

From *A Spanish Picnic* by Robert Capon

11. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

Anorexia Nervosa is found predominantly among adolescent females, affecting one in 250 girls between 12 and 18 years of age. These young women often come from middle to upper class families and are described as intelligent, obedient, even "model" children until the eating disorder emerges. At that point, the constant battle over eating disrupts every aspect of life for the girl and her family.

Anorexia Nervosa

- A. prevails only among adolescents.
- B. results from a desire to be perfect.
- C. affects females of any socioeconomic backgrounds.
- D. is a common ailment affecting American teenagers.

From *Eating Disorders – An Adolescent Problem* by Helen Guthrie

12. Read the statement or passage, and then choose the best answer to the question. Answer the question on the basis of what is stated or implied in the statement or passage.

Myths are stories, the products of fertile imagination, sometimes simple, often containing profound truths. They are not meant to be taken too literally. Details may sometimes appear childish, but most myths express a cultures' most serious beliefs about human beings, eternity, and God.

The main idea of this passage is that myths

- A. are created primarily to entertain young children.
- B. are purposely written for the reader who lacks imagination.
- C. provide the reader with a means of escape from reality.
- D. illustrate the values that are considered important to a society.

From The College Board

Section Two: Sentence Skills

Two kinds of questions are given in the Sentence Skills test. Sentence Correction questions ask you to choose a word or phrase to substitute for an underlined portion of a sentence. Construction shift questions asks that a sentence be rewritten in a specific way without changing the meaning. A broad variety of topics is included here.

Select the best version of the underlined part of the sentence. The first choice is the same as the original sentence. If you think the original sentence is best, choose the first answer.

1. The baby was obviously getting hot, then Sam did what he could to cool her.

- A. hot, then Sam did
- B. hot, Sam did
- C. hot; Sam, therefore, did
- D. hot; Sam, trying to do

2. She hoped to find a new job. One that would let her earn money during the school year.

- A. Job. One that
- B. job. The kind that
- C. job, one that
- D. job, so that it

3. Knocked sideways, the statue looked as if it would fall.

- A. Knocked sideways, the statue looked
- B. The statue was knocked sideways, looked
- C. The statue looked knocked sideways
- D. The statue, looking knocked sideways

Rewrite the sentence below in your head, following the directions given below. Keep in mind that your new sentence should be well written and should have essentially the same meaning as the sentence given you.

4. When you cross the street in the middle of the block, this is an example of jaywalking.

- A. When you cross the street in the middle of the block, this
- B. You cross the street in the middle of the block, this
- C. Crossing the street in the middle of the block
- D. The fact that you cross the street in the middle of the block

Select the best version of the underlined part of the sentence. The first choice is the same as the original sentence. If you think the original sentence is best, chose the first answer.

5. To walk, biking, and driving are Pat's favorite ways of getting around.

- A. To walk, biking, and driving
- B. Walking, biking, and driving
- C. To walk, biking, and to drive
- D. To walk, to bike, and also driving

Rewrite the sentence below in your head, following the directions given below. Keep in mind that your new sentence should be well written and should have essentially the same meaning as the sentence given you.

6. Walking by the corner the other day, a child. I noticed, was watching for the light to change.

- A. a child, I noticed, was watching
- B. I noticed a child watching
- C. a child was watching, I noticed
- D. there was, I noticed, a child watching

7. In his songs, Gordon Lightfoot makes melody and lyrics intricately intertwine.

Rewrite, beginning with

Melody and lyrics...

Your new sentence will include:

- A. Gordon Lightfoot has
- B. make Gordon Lightfoot's
- C. in Gordon Lightfoot's
- D. does Gordon Lightfoot

8. It is easy to carry solid objects without spilling them, but the same cannot be said of liquids.

Rewrite, beginning with

Unlike liquids...

The next words will be:

- A. it is easy to
- B. we can easily
- C. solid objects can easily be
- D. solid objects are easy to be

9. Excited children ran toward the loud music, and they told others about the ice cream truck outside.

Rewrite, beginning with

The excited children, who had run toward the loud...

The next words will be

- A. music, they told
- B. music, told
- C. music, telling
- D. music and had told

10. If he had enough strength, Todd would move the boulder.

Rewrite, beginning with

Todd cannot move the boulder...

The next words will be

- A. when lacking
- B. because he
- C. although there
- D. without enough

11. The band began to play, and then the real party started.

Rewrite, beginning with

The real party started...

- A. after the band began
- B. and the band began
- C. although the band began
- D. the band beginning

12. Chris heard no unusual noises when he listened in the park.

Rewrite, beginning with

Listening in the park...

The next words will be

- A. no unusual noises could be heard
- B. then Chris heard no unusual noises
- C. and hearing no unusual noises
- D. Chris heard no unusual noises.

Section Three: Elementary Algebra

The Elementary Algebra test measures skills in the three categories. The first, operations with integers and rational numbers, includes computations with integers and negative rationals, the use of absolute values, and ordering. The second category, operations with algebraic expressions, tests skills with the evaluations of simple formulas and exponents, simplifying algebraic fractions, and factoring. The third category tests skills in equation solving, inequalities, and word problems. These questions include solving systems of linear equations, the solutions of quadratic equations by factoring, solving verbal problems presented in algebraic context, geometric reasoning, the translation of written phrases into algebraic expressions, and graphing.

1. Evaluate $|-26 + 10| =$

- A. 4
B. -16
C. 16
D. 36

2. Evaluate: $\frac{3^2 + 2^2 * 5 - \sqrt{25}}{8 - 4 \div 2 + 2}$

- A. 3
B. 15
C. 6
D. 24

3. Evaluate: $-\frac{3}{5} \left[\frac{2}{3} - \frac{1}{2} \left(\frac{3}{4} - \frac{1}{2} \right) \right] =$

- A. $-\frac{1}{40}$
B. $-\frac{3}{5}$
C. $-\frac{17}{40}$
D. $-\frac{13}{40}$

4. Factor: $15x - 3$

- A. $12x$
B. $3(5x - x)$
C. $3(5x - 1)$
D. $3(5x - 3)$

5. Simplify: $(5x^2 - 2x + 5) - (2x^2 + 3x - 7) =$

- A. $7x^2 + x + 12$
B. $3x^2 + x - 2$
C. $3x^2 - 5x + 12$
D. $3x^2 - 5x - 2$

6. Simplify: $(-6a^2b^3)(2a^4b^2) =$

A. $-12a^6b^5$

B. $-12a^8b^6$

C. $-4a^6b^5$

D. $-12a^{-2}b$

7. Simplify: $\left(\frac{2x^7y^2}{4xy^3}\right)^3 =$

A. $\frac{x^{18}y^3}{2}$

B. $\frac{x^6}{8y^3}$

C. $\frac{x^{18}}{8y^3}$

D. $8x^{18}y^6$

8. Simplify: $(3x - 5)(2x + 7) =$

A. $x + 2$

B. $17x + 35$

C. $6x^2 + 11x - 35x$

D. $6x^2 + 11x - 35$

9. If $-6(2x + 1) = -4x + 10$, then $X =$

A. -2

B. $-\frac{1}{4}$

C. -1

D. 24

10. If $2x + 2 \geq 5x + 11$, then

A. $x \leq -3$

B. $x \geq -3$

C. $x \geq 12$

D. $x \geq 3$

11. Which of the following is a linear factor of $2x^2 - x + 6$?

A. $2x - 3$

B. $X + 2$

C. $2x + 3$

D. $X - 3$

12. If $x^2 - 2x - 8 = 0$, then $X =$

A. -4 or 2

B. -2 or 4

C. -1 or 8

D. -8 or 1

13. Simplify: $\frac{6x^3 - 4x^2 + 10x}{2x} =$

A. $6x^3 - 4x^2 + 5$

B. $3x^3 - 2x^2 + 5x$

C. $-x^2 + 10$

D. $3x^2 - 2x + 5$

14. Simplify: $\frac{x^2 - x - 6}{x^2 - 2x - 3} =$

A. $\frac{x-6}{x-3}$

B. $\frac{x+2}{x+1}$

C. $\frac{2}{x}$

D. $\frac{(x+3)(x-2)}{(x-3)(x+1)}$

15. Choose the equation that is equivalent to the verbal description:

The difference between a number, X , and five less than twice the number is 9.

A. $x - (5 - 2x) = 9$

B. $x + (5 - 2x) = 9$

C. $x - (2x - 5) = 9$

D. $x + 2x - 5 = 9$

Section Four: Arithmetic

The Arithmetic test measures skills in three categories. The first, operations with whole numbers and fractions, includes addition, subtraction, multiplication, division, and recognizing equivalent fractions and mixed numbers. The second category, operation with decimals and percents, involves addition, subtraction, multiplication, and division as well as percent problems, equivalencies, and estimation problems. The last category, applications and problem solving, includes questions on rate, percent, and measurements problems, geometry problems, and distribution of quantity into its fraction parts.

1. $3\frac{1}{2} + 4\frac{2}{3} =$

A. $\frac{5}{6}$

B. $7\frac{3}{5}$

C. $7\frac{5}{6}$

D. $8\frac{1}{6}$

2. $9 \times 4\frac{2}{3} =$

A. 42

B. $1\frac{13}{14}$

C. $\frac{14}{27}$

D. $36\frac{2}{3}$

3. $3\frac{3}{5} \div 2\frac{1}{2} =$

A. $7\frac{1}{5}$

B. 9

C. $1\frac{2}{3}$

D. $1\frac{11}{25}$

4. All of the following are equivalent to 40 percent of N **EXCEPT**:

A. $0.4N$

B. $\frac{40}{100}N$

C. $40N$

D. $\frac{2}{5}N$

11. Sam and Mary each owed one half stock in a printing company. Sam sold $\frac{2}{5}$ of his stock to Mary. What fractional part of the printing business does Mary now own?
- A. $\frac{7}{10}$ B. $\frac{9}{10}$
C. $\frac{3}{7}$ D. $\frac{6}{7}$
12. A car traveled at 65 miles per hour for a total of 390 miles. How many hours did the car travel?
- A. 7 B. 39
C. 25,350 D. 6
13. If the area of a rectangle is 126 square inches and the length is 14 inches, then what is the width of the rectangle?
- A. 112 inches B. 9 inches
C. 18 inches D. 49 inches
14. The perimeter of a rectangle is 60 inches. If the width of the rectangle is 12 inches, then what is the length of the rectangle?
- A. 18 inches B. 5 inches
C. 48 inches D. 24 inches
15. Sam has a budget of \$45 to spend on entertainment for the weekend. If he spent $\frac{1}{3}$ of his budget on Friday and $\frac{2}{5}$ of his budget on Saturday, how many dollars does he have left over to spend on Sunday?
- A. \$12 B. \$33
C. \$9 D. \$36

Answer Key for Sample Assessment Test Questions

Reading Comprehension	Sentence Skills	Arithmetic	Elementary Algebra
1. B	1. C	1. D	1. C
2. A	2. C	2. A	2. A
3. D	3. A	3. D	3. D
4. C	4. C	4. C	4. C
5. C	5. B	5. C	5. C
6. D	6. B	6. C	6. A
7. A	7. C	7. B	7. C
8. B	8. C	8. B	8. D
9. A	9. B	9. B	9. A
10. C	10. B	10. A	10. A
11. C	11. A	11. A	11. C
12. D	12. D	12. D	12. B
		13. B	13. D
		14. A	14. B
		15. A	15. C

Elementary Algebra Solutions Sheet

1. Evaluate $|-26 + 10| = |-16| = \boxed{16}$

Answer: C

2. Evaluate: $\frac{3^2 + 2^2 * 5 - \sqrt{25}}{8 - 4 \div 2 + 2} = \frac{9 + 4 * 5 - \sqrt{25}}{8 - 2 + 2} = \frac{9 + 20 - 5}{8} = \frac{24}{8} = \boxed{3}$

Answer: A

3. Evaluate: $-\frac{3}{5} \left[\frac{2}{3} - \frac{1}{2} \left(\frac{3}{4} - \frac{1}{2} \right) \right] = -\frac{3}{5} \left[\frac{2}{3} - \frac{1}{2} \left(\frac{3}{4} - \frac{2}{4} * \frac{2}{2} \right) \right] = -\frac{3}{5} \left[\frac{2}{3} - \frac{1}{2} \left(\frac{3}{4} - \frac{2}{4} \right) \right] = -\frac{3}{5} \left[\frac{2}{3} - \frac{1}{2} \left(\frac{1}{4} \right) \right] = -\frac{3}{5} \left[\frac{2}{3} * \frac{8}{8} - \frac{1}{8} * \frac{3}{3} \right] = -\frac{3}{5} \left[\frac{16}{24} - \frac{3}{24} \right] = -\frac{3}{5} \left[\frac{13}{24} \right] = -\frac{39}{120} = \boxed{-\frac{13}{40}}$

Answer: D

4. Factor $15x - 3 = 3 * 5x - 3 * 1 = \boxed{3(5x - 1)}$

Answer: C

5. Simplify: $(5x^2 - 2x + 5) - (2x^2 + 3x - 7)$

Remove parenthesis and combine all like terms. (Remember to distribute the minus sign to all terms in the second equation.)

$$5x^2 - 2x + 5 - 2x^2 - 3x + 7 = 5x^2 - 2x^2 - 2x - 3x + 5 + 7 = \boxed{3x^2 - 5x + 12}$$

Answer: C

6. Simplify: $(-6a^2b^3)(2a^4b^2) = (-6 \cdot 2a^2a^4b^3b^2) = (-12a^{2+4}b^{3+2}) = \boxed{-12a^6b^5}$

Answer: A

$$7. \text{ Simplify: } \left(\frac{2x^7 y^2}{4xy^3} \right)^3 = \left(\frac{2x^7 y^2}{4x^1 y^3} \right)^3 = \left(\frac{1x^{7-1} 1}{2 \cdot 1 y^{3-2}} \right)^3 = \left(\frac{x^6}{2y} \right)^3 = \left(\frac{x^{6 \cdot 3}}{2^{1 \cdot 3} y^{1 \cdot 3}} \right)$$

$$= \boxed{\frac{x^{18}}{8y^3}}$$

Answer: C

8. Simplify: $(3x - 5)(2x + 7)$

Use FOIL method. First: $3x * 2x$; Outer: $3x * 7$; Inner: $-5 * 2x$; Last: $-5 * 7$

$$6x^2 + 21x - 10x - 35 = \boxed{6x^2 + 11x - 35}$$

Answer: D

9. If $-6(2x + 1) = -4x + 10$, then X =

$$6(2x + 1) = -4x + 10$$

$$-12x - 6 = -4x + 10$$

$$\underline{+4x \quad +4x}$$

$$-8x - 6 = 10$$

$$\underline{+6 \quad +6}$$

$$-8x = 16$$

$$\frac{-8x}{-8} = \frac{16}{-8}$$

$$\boxed{X = -2}$$

Answer: A

10. If $2x + 2 \geq 5x + 11$, then,

$$\underline{2x + 2 \geq 5x + 11}$$

$$\underline{-2 \quad -2}$$

$$2x \geq 5x + 9$$

$$\underline{-5x \quad -5x}$$

$$-3x \geq 9$$

$$\frac{-3x}{-3} \geq \frac{9}{-3} =$$

$$\boxed{x \leq -3}$$

Answer: A

11. Which of the following is a linear factor of $2x^2 - x + 6$?

Factor out:

$$(2x + 3)(x - 2)$$

$$\boxed{2x + 3}$$

Answer: C.

12. If $x^2 - 2x - 8 = 0$, then X =

Factor out:

$$(x + 2)(x - 4) = 0$$

$$(x + 2) = 0 \text{ or } (x - 4) = 0$$

Therefore

$$X = -2, \text{ and } \boxed{X = 4}$$

Answer: B

13. Simplify: $\frac{6x^3 - 4x^2 + 10x}{2x}$

Factor out 2x from the numerator.

$$\frac{2x(3x^2 - 2x + 5)}{2x}$$

2x cancels out.

$$\boxed{3x^2 - 2x + 5}$$

Answer: D

14. Simplify: $\frac{x^2 - x - 6}{x^2 - 2x - 3}$

Factor:

$$\frac{(x+2)(x-3)}{(x+1)(x-3)}$$

Simplify

$$\boxed{\frac{(x+2)}{(x+1)}}$$

Answer: B

15. Choose the question that is equivalent to the verbal description:

The difference between a number, X, and five less than twice the number is 9.

“Difference” means subtraction. So the equation is X minus another quantity. It begins like this:

$$X - (?)$$

“Is 9” means equals 9. So X minus some quantity is equal to 9. It looks like this:

$$X - (?) = 9$$

To find out what quantity is being subtracted from X we read the words between X and 9, “five less than twice the number”. Twice an unknown number is 2x. And 5 is being subtracted from 2x. It looks like this:

$$2x - 5$$

So we insert this quantity into the equation above:

$$\boxed{X - (2x - 5) = 9}$$

Answer: C

Arithmetic Solutions Sheet

$$1. 3\frac{1}{2} + 4\frac{2}{3} = \frac{3*2+1}{2} + \frac{4*3+2}{3} = \frac{7}{2} + \frac{14}{3} = \frac{7}{2} \left(\frac{3}{3}\right) + \frac{14}{3} \left(\frac{2}{2}\right) = \frac{21}{6} + \frac{28}{6} = \frac{49}{6} = 8\frac{1}{6}$$

Answer: D

$$2. 9 \times 4\frac{2}{3} = 9 \times \frac{14}{3} = \frac{9}{1} \times \frac{14}{3} = \frac{126}{3} = 42$$

Answer: A

$$3. 3\frac{3}{5} \div 2\frac{1}{2} = \frac{18}{5} \div \frac{5}{2} = \frac{18}{5} \times \frac{2}{5} = \frac{18}{5} \times \frac{2}{5} = \frac{36}{5} = 7\frac{1}{5}$$

Answer: A

4. 40% of N:

$$0.4N, \frac{40}{100} N, \text{ or } \frac{2}{5} N$$

Answer: C

$$5. 0.4999 \times 16.00027 = .5 \times 16 = \frac{1}{2} \times 16 = 8$$

Answer: C

$$6. 40\% \text{ of } 85 = 0.40 \times 85 = 34$$

Answer: C

7. 15 is what % of 60:

$$X = \frac{15}{60} = \frac{15}{60} = .25 \text{ or } 25\%$$

Answer: B

8. 80% of 125 gallons

$$0.80 \times 125 = \frac{8}{10} \times 125 = \frac{4}{5} \times 125 = 4 \times 25 = \boxed{100 \text{ gallons}}$$

Answer: D

9. Debra took a 150 question test. She got 78% correct. So she missed 22% (100% - 78%).

$$150 \times .22 = 15 \times 2.2 = 15 \times 2 + 15 \times \frac{2}{10} = 30 + 3 = \boxed{33}$$

Answer: B

10. $\frac{1}{4} + \frac{1}{6} + \frac{1}{3} + X = 1$

$$\frac{1}{4} \left(\frac{3}{3} \right) + \frac{1}{6} \left(\frac{2}{2} \right) + \frac{1}{3} \left(\frac{4}{4} \right) + \frac{x}{1} \left(\frac{12}{12} \right) = 1$$

$$\frac{3}{12} + \frac{2}{12} + \frac{4}{12} + \frac{12x}{12} = 1$$

$$\frac{3+2+4+12x}{12} = 1$$

$$(12 \left[\frac{9+12x}{12} \right]) = 1 (12)$$

$$\begin{array}{r} 9 + 12x = 12 \\ \underline{-9} \quad \underline{-9} \end{array}$$

$$12x = 3$$

$$\frac{12x}{12} = \frac{3}{12}$$

$$X = \frac{3}{12} \text{ or } \boxed{\frac{1}{4}}$$

Answer: A

11. Initially, Sam and Mary both own a $\frac{1}{2}$ stake in the company. It would look like this:

$$\frac{1}{2} + \frac{1}{2} = 1$$

Then Mary gains $\frac{2}{5}$ of Sam's $\frac{1}{2}$. It looks like this:

$$\frac{2}{5} \times \frac{1}{2} = \frac{1}{5}$$

However we are not sure what Sam has left. So the next equation would look like this:

$$S + \frac{1}{2} + \frac{2}{5} \left(\frac{1}{2} \right) = 1$$

It is Sam's unknown share *plus* Mary's original share *plus* the new amount she received from Sam. We work the equation out like this:

$$S + \frac{1}{2} + \frac{2}{5} \left(\frac{1}{2} \right) = 1$$

$$S + \frac{1}{2} + \frac{2}{10} = 1$$

$$S + \frac{1}{2} \left(\frac{5}{5} \right) + \frac{2}{10} = 1$$

$$S + \frac{5}{10} + \frac{2}{10} = 1$$

$$S + \frac{7}{10} = 1$$

$$S = \frac{3}{10}$$

Sam's new share is $\frac{3}{10}$ of the total. So Mary's share is:

$$1 - \frac{3}{10} = \boxed{\frac{7}{10}}$$

Answer: A

12. To solve this problem we use the distance formula:

Distance = rate \times time or $d = rt$. Plug in the numbers:

$$390 = 65t$$

Solve for t .

$$\frac{390}{65} = \frac{65t}{65}$$

$$\frac{390}{65} = t$$

$$6 = t$$

The car traveled **6 hours.**

Answer: D

13. To solve this problem we use the formula for the area of a rectangle:

$A = \text{Length} \times \text{Width}$

$$A = l \times w$$

$$126 = 14w$$

Solve for w .

$$\frac{126}{14} = \frac{14w}{14}$$

$$\frac{126}{14} = w$$

$$9 = w$$

The width is **9 inches.**

Answer: B

14. To solve this problem we use the formula for the perimeter of a rectangle:

Perimeter = Length \times 2 + Width \times 2

$$P = 2L + 2W$$

$$60 = 2L + 2(12)$$

$$60 = 2L + 24$$

$$\begin{array}{r} 60 = 2L + 24 \\ -24 \quad -24 \\ \hline \end{array}$$

$$36 = 2L$$

$$\frac{36}{2} = \frac{2L}{2}$$

$$18 = L$$

The length of the rectangle is 18 inches.

Answer: A

15. To figure out how much money Sam has left on Sunday, we have to figure out how much he spent on Friday and Saturday.

To figure out the money spent on Friday we multiply the total amount of money (\$45) by the fraction of it spent on Friday ($\frac{1}{3}$).

$$45\left(\frac{1}{3}\right) = \$15 \text{ dollars}$$

For Saturday:

$$45\left(\frac{2}{5}\right) = \$18 \text{ dollars}$$

For Sunday:

$$45 - 15 - 18 = 12$$

So there are \$12 dollars left for Sunday.

Answer: A