SAT Student Manual 2

ASC English

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Contents

1 Introduction

ASC's SAT Advanced course is designed to help students master the most difficult topics on the SATs. By focusing on and practicing these topics, advanced SAT students can improve their SAT scores.

The SAT is composed of ten sections - a 25-minute essay, six 25-minute sections, two 20-minute sections, and one 10-minute section. Total testing time is 3 hours and 45 minutes. The breakdown of each section is as follows:

Topic	Testing Time	Number of Questions	Skills Tested
Critical Reading	Two 25 minute sections and one 20 minute section	67 Questions in total: 19 sentence completions and 48 passage based questions	Vocabulary, sentence logic, answering questions and making inferences about a text
Math	Two 25 minute sections and one 20 minute section	54 Questions in total: 44 multiple choice and 10 student-produced responses	Integrating and applying mathematical concepts, including algebra, functions, geometry, probability, statistics, and data interpretation
Writing Multiple Choice	One 25 minute section and one 10 minute section	49 Questions in total: 25 Improving sentences, 18 identifying sentence errors, and 6 improving paragraph questions	Sentence structure and grammar, coherence and cohesion
Writing Essay	25 minutes	Write one essay on a given topic	Writing and analysis skills

You should also be aware that SAT test includes one 25-minute section called the experimental section. It can be in critical reading, math, or writing and is used by the testmakers to design and test questions for future exams. This section does not contribute to your SAT score, however, you won't know which section is the experimental section, so you should try your best on every part of the exam.

SAT Scoring

Each section (critical reading, math, and writing) is scored by giving you a raw score and then converting that to a scaled score. The raw score is the number of questions that you got correct minus one-fourth of the questions that you got wrong. Leaving a question blank does not affect your score. This equation can be seen as:

Raw Score: _____ correct − 0.25 (_____) incorrect = _____

The raw score is then converted to a scaled score between 200 and 800 points. It should be

noted that in the writing section, essay score is also factored into your scaled score. Additionally, in the math section, correct student-produced responses (grid ins) are worth one raw score point whereas incorrect student-produced responses (grid ins) do not affect your score.

This brings us to two very important questions:

1. If wrong answers lead to subtracting points, but a blank does not affect my score, should I guess?

The answer is, it depends. If you are able to eliminate at least one choice, then the long run average results in the same or greater raw score than if you didn't guess. This also depends on the individual test taker's personality. Someone that tends to be more cautious might be tempted to leave a lot more blank than one should. On the other hand, a person that is more risk-inclined may have a tendency of not leaving enough blank. Therefore, if you are unsure, then you should complete a practice section leaving a few blank and guessing on the majority of questions that you don't know for sure and find your raw score using the equation above. Then, calculate what your raw score would have been had you left more of the ones that you were unsure of blank. Use whatever strategy gives you the highest score.

2. What is a "good" SAT score?

Although many people know that the coveted 2400 is a perfect score on the SATs, many students and parents wonder what other scores are classified as "good". This question does not have a simple answer because a "good" SAT score for one college might not be "good" for a more competitive school. For example, the top schools in the country tend to look for scores at least in the 700s in each of the three sections (2100 total), whereas smaller, less competitive schools will accept lower scores. While it is true that the higher a student's SAT scores are, the more opportunities will be available to a student, there are schools for students with a large range of SAT scores. Fortunately, there are tools to help students figure out their SAT score goal and what is a "good" score for their ability level and the colleges that they are hoping to gain acceptance from.

So what is a good score on the SAT? The answer is: it depends on what schools and, in some cases, what programs of study a student is aiming for. Therefore, first step in deciding what a good score is would be to decide what colleges or universities interest you and come up with a few ideas of what you might want to study. Next, just check online what scores your ideal school is looking for and make it your goal to score a bit higher just so you stand out among all the other applicants. Oftentimes, the university's website will contain the average SAT score and GPA for admitted applicants. They might also give a 25% to 75% percentile scores. Someone in this range might be a good match for the school, whereas it might be more difficult for someone with SAT scores than the 25% percentile to be admitted. The College Board (the same company that makes the SATs) also has an online program called "My College Matches" to help students identify colleges that might be good for them sorted by individual factors such as SAT

score. Identifying potential areas of study could also help to put SAT scores in context. For example, a student who scores a 2100 by getting 800s on the verbal and reading section and a 500 on math might make it into a writing program at a top university but would not be considered by a high ranking technical institution. Every school and every student's situations are different.

About the Critical Reading Section

The critical reading section is composed of two parts, sentence completions and passage-based reading. The sentence completion focuses on vocabulary and sentence logic in order to select the word that best fits in the blank within the sentence. It is imperative that students learn to detect the types of sentence completions and the clues given in each of the sentences which will lead to the correct answer. For the passage-based reading, students will learn the types of passages and questions tested as well as strategies for detecting the correct answer and the reasons that incorrect answers are incorrect.

About the Math Section

The following topics are tested on the SAT math section: number and operations, algebra and functions, geometry and measurement, and data analysis, statistics, and probability questions.

Below is a list from the College Board of each topic tested in more detail:

Number and Operations ($20-25\%$ of the test)

- Arithmetic word problems (including percent, ratio, and proportion)
- Properties of integers (even, odd, prime numbers, divisibility, and so forth)
- Rational numbers
- Sets (union, intersection, elements)
- Counting techniques
- Sequences and series (including exponential growth)
- Elementary number theory

Algebra and functions questions ($35-40\%$ of the test)

- Substitution and simplifying algebraic expressions
- Properties of exponents
- Algebraic word problems
- Solutions of linear equations and inequalities
- Systems of equations and inequalities
- Quadratic equations
- Rational and radical equations
- Equations of lines

- Absolute value
- Direct and inverse variation
- Concepts of algebraic functions
- Newly defined symbols based on commonly used operations

Geometry and measurement questions ($25-30\%$ of the test)

- Area and perimeter of a polygon
- Area and circumference of a circle
- Volume of a box, cube, and cylinder
- Pythagorean theorem and special properties of isosceles, equilateral, and right triangles
- Properties of parallel and perpendicular lines
- Coordinate geometry
- Geometric visualization
- Slope
- Similarity
- Transformations

Data analysis, statistics, and probability questions ($10-15\%$ of the test)

- Data interpretation (tables and graphs)
- Descriptive statistics (mean, median, and mode)
- Probability

You will note that there is no pre-calculus or advanced trigonometry (sine, cosine, tangent, etc.), so if you haven't taken these classes, don't worry about it. However, you should be cognizant of when you took what classes and, consequently how much time that you will need to focus on each topic. For example, an 11th grader that took geometry in 9th grade may need to spend more time reviewing geometry than a 11th grader that is currently in a geometry class.

About the writing section

The writing section is composed of two sections, the 25 minute essay and multiple choice questions. Students will learn what the SAT graders are looking for and also practice with timing, brainstorming, and writing so that they can get a perfect score on the essay. Students will also be exposed to the three types of writing multiple choice questions– sentence improvements, sentence errors, and paragraph improvementsas well as the grammatical or other writing concepts taught in this section.

SAT Homework Agenda

Date Due	SAT Verbal	SAT Math

Part I

SAT Math

2

General Strategies for SAT Math

3

Numbers and Operations

1 Arithmetic Word Problems

General Equation: $\frac{a}{b} = \frac{c}{d}$

Example 1: ?? If 3 gallons of water fill 2 fish bowls, how many gallons will fill 9 fish bowls?

Example 2: If y varies directly as x, and $y = 6$ when $x = 9$, what is the value of y when $x = 12$?

Example 3: Terri rides her bike every day on her way to school. On a sunny day, Terri can make the 2.6 mile trip in half of an hour at a constant pace. When it rains, Terri's speed drops by 1 mile per hour. If Terri's trip is the same distance in the rain, what total time it takes her to get to school?

MEDIUM

1. If the side length, s, of a square is increased by n, what is the ratio of the area of the new square to the old?

Equation/Strategy: _____

Solve:

(a) $n^2 : 1$
(b) $n^2 : s^2$
(c) $s^2 : n^2$
(d) $s^2 : (s+n)^2$
(e) $(s+n)^2 : s^2$

---

2. From January to March, coats drop in price by 10% each month from the month before. Which ratio represents the cost of the jacket from January to March?

Equation/Strategy: _____

Solve:

(a) 100 : 81
(b) 10 : 81
(c) 10 : 9
(d) 9 : 1
(e) 11 : 9

ADVANCED

3. If P varies jointly as T and inversely as V, and $P = 5$ when $V = 3$, what is the value of V when P doubles and T remains unchanged?

Equation/Strategy: _____

Solve:

(a) 1.5
(b) 2.5
(c) 6
(d) 10
(e) 12

---

4. A jar contains D jellybeans. If there are A red jellybeans, B green jellybeans, and C orange jellybeans. What proportion of the jellybeans are red or orange?

Equation/Strategy: _____

Solve:

(a) $\dfrac{A+C}{A+B+C}$
(b) $\dfrac{A+C}{D}$
(c) $\dfrac{D-(A+C)}{D}$
(d) $\dfrac{D-B}{A+B+C}$
(e) $\dfrac{D-B}{D}$

2 Rational Numbers

General Equation: $\frac{a}{b}$ where a and b are integers and $b \neq 0$

Example 1: If $\frac{x}{3} = \frac{y}{5}$, write an inequality stating the relationship between x and y.

Example 2: If the number of microbes in a petri dish is reduced by a factor of one-third after each day, how many days will it take for the population to be less than 10% of the original amount?

Example 3: The batting average of a baseball player is given by the proportion of hits versus the number of times at bat. If Stanley has a batting average of 0.32 and had 24 hits in one season, what is the number of times Stanley was at bat?

MEDIUM

1. If the odds of choosing a red marble from a bag of marbles is 0.3. If the odds of choosing n red marbles is 0.027, what is the value of n?

   Equation/Strategy: _____

   Solve:

   (a) 2
   (b) 3
   (c) 6
   (d) 7
   (e) 9

---

2. One-third of Ms. Boyd's class takes French while four-fifths takes Spanish. How many students are taking both French and Spanish?

   Equation/Strategy: _____

   Solve:

   (a) 1/15
   (b) 2/15
   (c) 1/5
   (d) 1/3
   (e) 2/3

ADVANCED

3. Bob is two-thirds the age of his sister Sally. If Sally is four-thirds times the age of their sister, Patricia. If Patricia is 3 years older than Bob, what is Sally's age?

   Equation/Strategy: _____

   Solve:

   (a) 20
   (b) 24
   (c) 28
   (d) 32
   (e) 36

---

4. From 1970 to 2010, the population of US living on the coast has increased by approximately 40%. If approximately 40% of the total population of the USA lives on the coast in 2010 and the population in 2010 is 308 million people, what is the population (in millions) of the US in 1970?

   Equation/Strategy: _____

   Solve:

   (a) 49
   (b) 77
   (c) 88
   (d) 193
   (e) 220

3 Sequences and Series

General Equation:

Arithmetic Sequence

$$a_n = a_1 + d(n-1)$$

Geometric Sequence

$$a_n = a_1 r^{n-1}$$

Arithmetic Series

$$S = \frac{n(a_1 + a_n)}{2}$$

Geometric Series

$$S = \frac{a_1(1 - r^n)}{1 - r}$$

Example 1: Shelly is preparing to run for a marathon. If Shelly starts running on the first week with 1 kilometer, and doubles the number of kilometers every week, how many miles will she run on the sixth week?

Example 2: Jenny receives a weekly allowance of $15 and is saving up to buy a new laptop that costs $450. If she has $100 saved up already, how many weeks will it take her to have enough for the laptop?

Example 3: A ball is dropped from a height of 1 meter and bounces a height of two-thirds of the previous bounce with every consecutive bounce. What is the total distance the ball has traveled after 5 bounces?

MEDIUM

1. Tom is doing a cross country bike ride. On the first day, Tom rode 5 miles. If he decides to ride an additional 20% every day, approximately how long will he have ridden on day 8?

Equation/Strategy: _____

(a) 13 miles

(b) 14 miles

(c) 18 miles

(d) 19 miles

(e) 20 miles

Month	2	5	7
Height	5	9.5	11.5

2. Eduardo purchases a potted plant to grow at home. The height is recorded (in inches) every month. If the rate of growth is constant, at what height did Eduardo buy the plant?

Equation/Strategy: _____

(a) 2 in

(b) 3 in

(c) 3.5 in

(d) 4 in

(e) 4.5 in

ADVANCED

3. A spherical balloon deflates at a rate such that the volume is cut in half every 2 minutes. If r is the initial radius, which expression represents the radius after 8 minutes?

Equation/Strategy: _____

Solve:

(a) $r/2$

(b) $r/4$

(c) $r/8$

(d) $r/16$

(e) $r/32$

---

4. A guitar string is plucked and the distance between the highest point and the lowest point of the first oscillation is 256 millimeters. If the distance the string travels is reduced by one-quarter with each oscillation, how many oscillations will it take for the string to have traveled a total distance of 700 millimeters?

Equation/Strategy: _____

Solve:

(a) 2.5

(b) 3

(c) 3.5

(d) 4

(e) 5

4 Elementary Number Theory

General Equation: $a|b = n$ if and only if $a = b \cdot n$

Example 1: Gumdrops come in bags of 60. Mr. Lee wants to buy enough bags so that he has a perfect square number. What is the least number of bags Mr. Lee will need to buy?

Example 2: The sum of the angles of a regular polygon is given by the equation $S(n) = 180(n-2)$ where n is the number of sides. How many sides does the smallest regular polygon have if is the smallest regular polygon possible such that each individual angle is over 120°?

Example 3: A group of n students participate in a math competition. The students are required to shake hands with all other participates in the competition. If each handshake between two people is counted only once, how many distinct handshakes are there overall?

MEDIUM

1. There are n jellybeans in a jar. The number of jellybeans can be separated into groups of 24 or groups of 42. What is the least possible number of jellybeans in the jar?

   Equation/Strategy: _____

   Solve:

   (a) 126
   (b) 168
   (c) 252
   (d) 504
   (e) 1008

---

2. A full revolution of the hour hand around the face of a clock corresponds to 12 hours. If the hour hand starts at 12:00 AM and completes 6.75 revolutions, what is the current time?

   Equation/Strategy: _____

   Solve:

   (a) 3:00 AM
   (b) 9:00 AM
   (c) 3:00 PM
   (d) 6:00 PM
   (e) 9:00 PM

ADVANCED

3. For regular polygons of n sides, if f is the number of faces, v is the number of vertices, and e is the number of edges, what is the value of $v - e + f$?

   Equation/Strategy: _____

   Solve:

   (a) 0
   (b) 1
   (c) 2
   (d) n-1
   (e) n

---

4. Ms. Rizzo has a box of play sand in her classroom. If the volume is a positive integer greater than 1 in^3, and is also a perfect square, what is the smallest possible length of the diagonal from one vertex to the other passing through the center of the cube?

   Equation/Strategy: _____

   Solve:

   (a) $\sqrt{2}$
   (b) $\sqrt{3}$
   (c) $2\sqrt{2}$
   (d) $2\sqrt{3}$
   (e) $4\sqrt{3}$

5 Sets

General Equation:

Union	Intersection
$p_{P \text{ or } Q} = p_P + p_Q - p_P \cdot p_Q$	$p_{P \text{ and } Q} = p_P \cdot p_Q$

Example 1: Liang is playing a game with a standard deck of cards. He wants the first card he picks up to be either a red card or a face card (Jack, Queen, or King). What is the probability he will choose either a red card or a face card?

Example 2: In the set of integers from 1 to 100 (inclusively), how many numbers are divisible by 3 or 5 but not both?

Example 3: Mr. Dropal has 16 students in his class. There are 10 male students. Half of all students are taking only Chinese and one-quarter are taking Chinese and French. If the class must take either French or Chinese, what proportion represents the maximum number of females taking only French?

MEDIUM

1. Mr. Carter has a garden of yellow, white, and red rose bushes. If the proportion of red rose bushes is 0.4. When he buys an additional 4 red rose bushes, the proportion increases to 0.5. How many rose bushes did Mr. Carter originally have?

   Equation/Strategy: _____

   Solve:

   (a) 8
   (b) 12
   (c) 20
   (d) 24
   (e) 36

2. The average (arithmetic mean) of a set of 5 positive integers is 10 and the median is 10. What is the largest possible value of the largest member of the set?

   Equation/Strategy: _____

   Solve:

   (a) 10
   (b) 50
   (c) 22
   (d) 37
   (e) 40

ADVANCED

3. Helen has a box of 40 chocolates. The proportion of choosing a cherry filled or coconut is 0.3, whereas the proportion of choosing a coconut or creme filled is 0.4. If the number of creme filled is twice the number of cherry filled chocolates and there is at least one cherry filled chocolate, what proportion of coconut chocolates are there?

   Equation/Strategy: _____

   Solve:

   (a) 0.075
   (b) 0.1
   (c) 0.15
   (d) 0.2
   (e) 0.25

4. Robbie has a equal chances of getting into College A and College B. If the proportion of getting into either college is 0.84, what proportion represents his chances of getting into one of the two schools?

   Equation/Strategy: _____

   Solve:

   (a) 0.4
   (b) 0.42
   (c) 0.5
   (d) 0.6
   (e) 0.84

6 Counting Techniques

General Equation:

Permutations	**Combinations**
Without Repetition	*Without Repetition*
$_nP_r = \frac{n!}{(n-r)!}$	$_nC_r = \frac{n!}{r!(n-r)!}$
With Repetition	*With Repetition*
n^r	$\frac{(n+r-1)!}{r!(n-1)!}$

Example 1: Mandy is throwing an ice cream party and has 3 flavors of ice cream and 4 different toppings. How many different combinations can her guests make?

Example 2: Jerry is making a sundae with 3 scoops of ice cream. If he has 5 different flavors of ice cream, how many different combinations can Jerry make?

Example 3: If a four-digit pin number contains the digits 0 to 9 where no digit can be repeated more than twice, how many different combinations for pin numbers are possible?

MEDIUM

1. If set A contains all even integers under twenty and set B contains all even prime numbers, then the set of common elements between set A and set B is

   Equation/Strategy: _____

   Solve:

   (a) {}
   (b) {0}
   (c) {2}
   (d) {0, 2}
   (e) All even numbers

---

2. If a four point star has 8 vertices, and an eight point star has 16 vertices, how many vertices does a 10 point star have?

   Equation/Strategy: _____

   Solve:

   (a) 12
   (b) 16
   (c) 20
   (d) 24
   (e) 32

ADVANCED

3. A number of volleyballs compete in a tournament. If each team must play one another, and there are a total of 120 matches, how many teams competed?

   Equation/Strategy: _____

   Solve:

   (a) 5 teams
   (b) 6 teams
   (c) 7 teams
   (d) 8 teams
   (e) 12 teams

---

4. An equilateral triangle is divided so that the midpoint of each line is the vertex of an inscribed triangle. If the process continues, how many triangles will there be after n divisions?

   Equation/Strategy: _____

   Solve:

   (a) 2^n
   (b) 3^n
   (c) 4^n
   (d) $4n$
   (e) $8n$

4

Algebra and Functions: Part I

1 Substitution and Simplifying Algebraic Expressions

General Equation:

Distributive Property

$$a(m+n) = am + an$$

Example 1: If Sally has 6 boxes and each box has 12 books, how many books does Sally have?

Example 2: Chase and Jill both collect stamps. If Jill has six less than twice the number of stamps than Chase does, how many stamps does Jill have if Chase has 24 stamps?

Example 3: Townsville High School has 30 classrooms, each with 15 desks. If 80% of desks are occupied in 90% and the other 10% of the classrooms are 100% full, how many students attend the school?

MEDIUM

1. Chris has a collection of 120 records which consists of jazz, blues, and classical records. If one-fourth of the records are jazz and one-third of the records are blues, how many of the records are classical?

Equation/Strategy: _____

Solve:

(a) 30
(b) 40
(c) 50
(d) 60
(e) 70

---

2. The density, d, of an object is the ratio of its mass to its volume. If the volume of an object is halved and the mass is doubled, which expression represents the new density in terms of d?

Equation/Strategy: _____

Solve:

(a) $1/4d$
(b) $1/2d$
(c) d
(d) $2d$
(e) $4d$

ADVANCED

3. Tommy is on the outer edge of a merry-go-round that moves at a constant speed. If r is Tommy's distance from the center, and the merry-go-round makes m full cycles during n minutes, which expression represents Tommy's distance traveled in 1 hour?

Equation/Strategy: _____

Solve:

(a) $\frac{mr\pi}{30n}$
(b) $\frac{mr^2\pi}{30n}$
(c) $\frac{120r\pi}{mn}$
(d) $\frac{120mr^2\pi}{n}$
(e) $\frac{120mr\pi}{n}$

---

4. Bunny Slopes Co. is having a sale on winter wear of 20% off. Tracy buys a pair of ski goggles and receives an additional 10% off of the sale price. If the final cost of the goggles is \$90, how much did Tracy save?

Equation/Strategy:

Solve:

(a) 22
(b) 25
(c) 35
(d) 38
(e) 125

2 Solutions of Linear Equations and Inequalities

General Equation:

Point-Slope Form of a Line

$$y = mx + b$$

Example 1: If the cost of a cab has a base fare of \$2.50 and \$0.40 per mile, how much does a 10 mile ride cost?

Example 2: The cost of tablet devices has dropped an average of 3% of the original price every quarter. After how long will the cost of a tablet be less than half of the original cost?

Example 3: The population of Summerville increases at a constant annual rate. The population was recorded in January 2008 as 362,000 and again in July 2010 as 384,000. What is the annual rate of growth of the population?

MEDIUM

1. The speed of a minute hand moves at a constant speed of 1/60 rpm (revolutions per minute). If the current time is 4:00 pm and the minute hand has made 1.75 revolutions, what time was it first recorded at?

Equation/Strategy: _____

Solve:

(a) 2:15 pm
(b) 2:25 pm
(c) 2:45 pm
(d) 3:15 pm
(e) 3:25 pm

---

2. Both Terri and Sam are shorter than Sissy, and Sissy and Hector is shorter than Roy. Which of the following must be true?

I. Terri is shorter than Sam
II. Sissy is shorter than Hector
III. Sam is shorter than Roy

Equation/Strategy: _____

Solve:

(a) I only
(b) II only
(c) III only
(d) I and II
(e) II and III

ADVANCED

3. A chemical reaction results in the release the constant release of 70 joules of energy over a 14 minute period. If the total initial amount of energy in the system was 370 joules, how long will it take for the system to release all of its energy?

Equation/Strategy: _____

Solve:

(a) 1 hour 10 minutes
(b) 1 hour 14 minutes
(c) 1 hour 17 minutes
(d) 1 hour 24 minutes
(e) 5 hours 17 minutes

---

4. The number of students at Mainsville School with cellphones increases at a constant rate of n students per year. If the number of students with cellphones in January 2010 is 200 and the population of the student body is p, which expression represents the proportion of students with cellphones after m months?

Equation/Strategy: _____

Solve:

(A) $\frac{mn}{p+200}$ (B) $\frac{mn}{p-200}$

(C) $\frac{mn+200}{p}$ (D) $\frac{mn+2400}{p}$

(E) $\frac{mn+2400}{12p}$

3 Properties of Exponents

General Equation:

The Laws of Exponents

$$a^m \cdot a^n = a^{m+n} \qquad \frac{a^m}{a^n} = a^{m-n}$$

$$(ab)^m = a^m \cdot b^m \qquad (a^m)^n = a^{mn}$$

Example 1: There are 1000 milimeters in one meter and 1000 meters in one kilometer. How many times larger is a kilometer than a millimeter?

Example 2: A pallet contains 5 rows of 5 columns of boxes, each column 5 boxes high. How many boxes does the pallet contain?

Example 3: The intensity of a sound is inversely proportional to the square of your distance from the source of the sound. If you are 6 times further away from a set of speakers at a concert as your friend, what is the ratio of the intensity of you to your friend?

MEDIUM

1. A wooden block occupies a volume of $2a$. If the side length is an integer, what is the smallest possible value of a?

Equation/Strategy: _____

Solve:

(a) 2
(b) 3
(c) 4
(d) 8
(e) 16

---

2. The sum of the squares of two numbers, a and b, is equal to to the square of the sum. Which of the following must be true?

I. $a \cdot b = 0$
II. $a = b$
III. $(a+b)^3 = a^3 + b^3$

Equation/Strategy: _____

Solve:

(a) I is true
(b) II is true
(c) III is true
(d) I and II is true
(e) I, II, and III are true

ADVANCED

3. The distance of an object falling from height is proportional to the square of time of the fall. If Betty drops a rock from the top of a building, the rock travels a distance of d^3 meters after time t seconds. If both the distance and the time are whole numbers and $d \neq t$, what is the least distance traveled by the rock?

Equation/Strategy: _____

Solve:

(a) 2 m
(b) 4 m
(c) 8 m
(d) 32 m
(e) 64 m

---

4. A coat goes on sale x percent off of the original sale price every month. Which of the following expressions represents the amount taken off after m months?

Equation/Strategy: _____

Solve:

(a) $n\left(\frac{x}{100}\right)^m$
(b) $n\left[1-\left(\frac{x}{100}\right)^m\right]$
(c) $1-\left(\frac{x}{100}\right)^m$
(d) $n\left[1-\left(\frac{x^m}{100}\right)\right]$
(e) $n(1-x^m)$

4 Systems of Equations and Inequalities

General Equation:

Parallel Lines	Perpendicular Lines
$m_1 = m_2$	$m_1 \cdot m_2 = -1$

Example 1: Plane A and plane B are flying parallel to one another. If after 20 minutes, plane A has risen an altitude of 2000 m, how much has the altitude of plane B has risen in 30 minutes?

Example 2: When Johnny has x nickels and y dimes, his total is \$3. When he has y nickels and x dimes, his total increases by \$0.75. How many nickel and dimes did Johnny start off with?

Example 3: Two cars starting at the same intersection begin traveling perpendicular to one another. If the first car travels north west at a 25° angle of the point of intersection, what is the direction of the second car?

MEDIUM

1. A coffee costs \$2.5 and a muffin costs \$3. If Tasha has \$11 and makes a purchase, what is the least amount of change she can receive?

   Equation/Strategy: _____

   Solve:

   (a) \$0.00
   (b) \$0.50
   (c) \$1.00
   (d) \$1.50
   (e) \$2.00

2. Stacy and Ann enter a relay race that consists of 3 events, each worth 10 points. If Stacey earned 8 points and 9 points in the first two events, what is the least number of points she will need to earn in the third event to win if Ann received received a 23 points total?

   Equation/Strategy: _____

   Solve:

   (a) 6
   (b) 7
   (c) 10
   (d) 23
   (e) 24

ADVANCED

3. Two planes leave from parallel terminals. If plane A travels northwest at 400 mph, and plane B travels northwest 600 mph 4 hours later, by what time will the second plane have equal distance traveled as the first plane?

   Equation/Strategy: _____

   Solve:

   (a) 2
   (b) 8
   (c) 4
   (d) 12
   (e) 48

4. A coyote is chasing roadrunner in a parallel path. If the roadrunner and coyote are running at a constant rate of 30 mph and the roadrunner has a 20 mile gain on the coyote, how much faster will the coyote need to run if he is going to catch up to the roadrunner in 2 hours?

   Equation/Strategy: _____

   Solve:

   (a) 10 mph
   (b) 20 mph
   (c) 25 mph
   (d) 30 mph
   (e) 40 mph

5 Equations of Lines

General Equation:

Slope-Intercept Form of a Line

$$y = mx + b$$

Example 1: Sunshine taxi charges a base fare of \$2.60 and \$0.40 for every quarter mile. If Elle's ride is 5 miles, how much is her ride?

Example 2: A parking lot charges \$10 for the first 4 hours and \$2 up to every additional hour. If George leaves his car for 8 and a half hours, how much is he charged?

Example 3: Moe's dad will give him \$1 for every x points over 50 on his math test, where x is a whole number of points. Moe received 86 points on his math test and earned \$12. How many points does Moe need to earn \$1?

MEDIUM

1. Travis is a car salesman and earns $10 an hour plus a flat commission fee for each car he sells. If Travis works 30 hours and has earned $1,000 in a week, how much does Travis earn in commission per car if he sells 4 cars?

   Equation/Strategy: _____

   Solve:

   (a) 80
   (b) 160
   (c) 320
   (d) 360
   (e) 640

---

2. Cherry is setting up a can drive at her school. For every 50 cans after 100 she collects, the donation center will give her one ticket to an amusement park. If Cherry wants a total of 10 tickets, what is the least number of cans she will need to collect?

   Equation/Strategy: _____

   Solve:

   (a) 500
   (b) 600
   (c) 1050
   (d) 1500
   (e) 5100

ADVANCED

3. The value of a car depreciates every year at a constant rate of $p\%$ of the total value. If the initial value of the car is d dollars, what is the current value of the car after m months?

   Equation/Strategy: _____

   Solve:

   (a) $d - pm$
   (b) $d - \frac{pm}{12}$
   (c) $d - \frac{pm}{100}$
   (d) $d - \frac{pm}{1200}$
   (e) $d\left(1 - \frac{pm}{1200}\right)$

---

4. The value of an interior angle of a regular n-gon increases as a linear function of n. If an interior angle of a 4-gon is $90°$ and a 6-gon is $120°$, what is the sum of all interior angles of an n-gon whose interior angles are each $144°$?

   Equation/Strategy: _____

   Solve:

   (a) 10
   (b) 12
   (c) 144
   (d) 576
   (e) 1440

5

Algebra and Functions: Part II

1 Absolute Value

General Equation:

$$|a - b| = |b - a|$$

Example 1: Dallas walks to her friends house 6 blocks north of her house. She then walks 3 blocks south to visit Francis. What is the total distance traveled by Dallas?

Example 2: A train travels east x miles, then travels west y miles. What expression gives the net distance traveled by the train?

Example 3: A ball thrown from the ground travels a distance of n meters and bounces with a height of half of the previous height. If the ball bounces 5 times, what is the total distance traveled by the ball in terms of n?

MEDIUM

1. A toy train travels on a circular path with a diameter of 10 feet. If Ellen runs the train forward 2.5 revolutions, then in reverse for 1.5 revolutions, what is the total distance traveled by the train?

Equation/Strategy: _____

Solve:

(a) 5π meters
(b) 10π meters
(c) 40π meters
(d) 20π meters
(e) 100π meters

---

2. If two objects are falling at the same speed, s meters per second, what is the total distance over t seconds traveled by both objects if the distance between them is d units?

Equation/Strategy: _____

Solve:

(a) $|st|$
(b) $|st - d|$
(c) $|2sd|$
(d) $|2st|$
(e) $|2st - d|$

ADVANCED

3. Lucky and Sunshine are two horses that are running in opposite directions of each other. If Lucky's velocity is p mph and is twice the velocity of Sunshine, what is the distance between the horses after t minutes?

Equation/Strategy: _____

Solve:

(a) $\left|\frac{pt}{60}\right| + \left|\frac{pt}{120}\right|$
(b) $\left|\frac{pt}{60} + \frac{pt}{120}\right|$
(c) $\left|\frac{pt}{30}\right| + \left|\frac{pt}{60}\right|$
(d) $\left|\frac{pt}{30} + \frac{pt}{60}\right|$
(e) $\left|\frac{pt}{30}\right| + \left|\frac{pt}{120}\right|$

---

4. A ping pong ball travels a constant velocity of h inches per s seconds with every successive hit. What is the ping pong speed if it travels g feet in m minutes?

Equation/Strategy: _____

Solve:

(A) $\left|\frac{5gh}{ms}\right|$
(B) $\left|\frac{gh}{5ms}\right|$
(C) $\left|\frac{5hm}{gs}\right|$
(D) $\left|\frac{hm}{5gs}\right|$
(E) $\left|\frac{gs}{5hm}\right|$

2 Direct and Inverse Variation

General Equation:

Direct Variation	Joint Variation
$y = kx$	$xy = k$

Example 1: If there are approximately 30 centimeters in one foot, how many centimeters are there in 18 inches? (1 foot = 12 inches)

Example 2: When a delivery truck carries heavier packages, the speed of the truck decreases. If the truck is able to go 60 mpg when it carries 400 lbs, how much time will it take the truck to carry 600 lbs and travel 100 miles?

Example 3: The speed of a vehicle increases as the amount of fuel used increases, and the amount of time spent traveling over a fixed distance decreases. If a vehicle goes 30 miles an hour for 60 minutes using one gallon of gasoline, how much gasoline will be required to speed the vehicle by 30 miles per hour for 45 minutes?

MEDIUM

1. The area of a square is proportional to the length of the diagonal. If d is the area, which of the following describes the area in terms of d?

   Equation/Strategy: _____

   Solve:

   (a) d^2
   (b) $(d\sqrt{2})^2$
   (c) $(d/\sqrt{2})^2$
   (d) $d^2\sqrt{2}$
   (e) $\sqrt{2}d^2$

---

2. The measure of acidity, pH, of a compound is proportional inversely proportional to the compound's hydroxide concentration, $[OH^-]$. If the pH is 4 when $[OH^-]$ is 10^{-10}, what is the pH decreased by when the $[OH^-]$ is decreased by a factor of 10?

   Equation/Strategy: _____

   Solve:

   (a) 1
   (b) 3
   (c) 4
   (d) 30
   (e) 40

ADVANCED

3. The odds of guessing a number correctly are proportional to the number of terms to guess from. If the odds of choosing p numbers out of q terms is 0.4, what are the lease odds of choosing p out of $q + 1$?

   Equation/Strategy: _____

   Solve:

   (a) 0.3
   (b) 0.33
   (c) 0.36
   (d) 0.375
   (e) 0.38

---

4. The volume, V, of a right cylinder is directly proportional to its radius and height. If the radius is doubled and the height is halved, what is the new volume in terms of the old volume, V? ($V = \pi r^2 h$)

   Equation/Strategy: _____

   Solve:

   (a) $V/4$
   (b) $V/2$
   (c) V
   (d) $2V$
   (e) $4V$

3 Quadratic Equations

General Equation: If $f(x)$ is a quadratic functions with roots r and s, then the coordinate of the vertex (maximum or minimum) is

$$\left(\frac{s-r}{2},\ f\left(\frac{s-r}{2}\right)\right)$$

Example 1: Reese jumps, starting from the ground, and reaches a maximum height of 6 feet at 3 seconds. How long does the trip take from when she first jumped until she returned back to the ground?

Example 2: A cannonball is fired from ground-level and hits the ground after t seconds. If the maximum height is h ft, write the coordinate that expresses the maximum of the cannonball's trajectory.

Example 3: The sum of two integers x and y is m and the product of the two integers is n. What is n in terms of x?

MEDIUM

1. Stacey is making a rectangular garden for her rose bushes. If the perimeter needs to be 100 cm, what is the maximum area she can enclose?

   Equation/Strategy: _____

   Solve:

   (a) 25 cm^2
   (b) 50 cm^2
   (c) 100 cm^2
   (d) 500 cm^2
   (e) 625 cm^2

---

2. For two integers p and q, the sum of their squares is equal to the square of their sum. What is the value of pq?

   Equation/Strategy: _____

   Solve:

   (a) 0
   (b) 1
   (c) 2
   (d) 3
   (e) 4

ADVANCED

3. A sector of a circle is inscribed in a square. If the radius of the circle is equal to the side length of the square, s, what is the area of the inscribed sector in terms of s?

   Equation/Strategy: _____

   Solve:

   (a) $\pi s^2/4$
   (b) $\pi s^2/2$
   (c) $s^2/4$
   (d) $s^2/2 - \pi$
   (e) $s^2 - \pi/4$

---

4. Andres has 1.2 kilometers of fencing he wishes to use to create two adjacent pens for his sheep and his goats. If he uses the fencing for the perimeter and a divider in the middle of the entire pen, what is the length, in meters of the shortest side? (1 kilometer = 1000 meters)

   Equation/Strategy: _____

   Solve:

   (a) 150 m
   (b) 300 m
   (c) 400 m
   (d) 600 m
   (e) 750 m

4 Rational and Radical Equations

General Equation:

If $\frac{a}{b} = \frac{c}{d}$, then

- $ad = bc$
- $\frac{a}{c} = \frac{b}{d}$

Example 1: If the sequence x, _____, y has a common ratio between each term, what is the value of the missing term?

Example 2: A three digit number is evenly divided by a two digit number such that the quotient is a perfect square. What is the smallest such three digit number and two digit number pair?

Example 3: For an integer n, the square root and cube root are both integers. If the square root and cube root of n are distinct, what is the smallest sum of both roots of such a number?

MEDIUM

1. The odds of choosing a red marble is 1 out of p marbles and the odds of choosing a green marble is 1 out of q marbles. Which expression represents the odds of choosing a red or a green marble?

Equation/Strategy: _____

Solve:

(a) $(p+q)/pq$
(b) $1/pq$
(c) $2/pq$
(d) $p+q$
(e) $(1-p)(1-q)$

---

2. Benjamin is missing cards in his deck of cards. If in his deck of 50 cards there are x kings and y queens. What are the odds of choosing a queen and a king?

Equation/Strategy: _____

Solve:

(a) $xy/50$
(b) $(x+y)/50$
(c) $2500/xy$
(d) $(x+y)/2500$
(e) $xy/2500$

ADVANCED

3. The ratio of the sides of a rectangle is $a : b$. If one is added to both sides, the new ratio of sides is $b : a$. Which of the following must be true?

I. The rectangle is a square
II. The area is a^2
III. The side length is 1

Equation/Strategy: _____

Solve:

(a) I is true
(b) II is true
(c) III is true
(d) I and II are true
(e) I, II, and III are true

---

4. A square is inscribed in a circle. If the radius of the circle double, by what factor does the side length of the square grow?

Equation/Strategy: _____

Solve:

(a) 2
(b) $\sqrt{2}$
(c) 4
(d) $2\sqrt{2}$
(e) $4\sqrt{2}$

5 Concepts of Algebraic Functions

General Equation: If $f(a) = b$, then (a, b) is a coordinate of the graph of f.

Example 1: If Timmy sells less lemonade in week x than in week y and Timmy's sales has increased every week, what relationship describes y to x?

Example 2: Luckystar is a horse that races in the Belmont racetrack. If Luckystar runs at x mph at time p and again at time q, what is his increase in average speed over the interval from p to q?

Example 3: If Arnold has $3\times3, 4\times4$, and 5×5 cubes, what is the least number of cubes Arnold will need to make a building that is 27 units high?

Example 4: Lindsey and Ricky have separate college tuition funds created on a Monday. Lindsey's account starts at an initial amount of \$0.50 and the total doubles every day, whereas Ricky's college tuition starts at \$1 initially and the total doubles every day. On what day will Lindsey begin having greater amounts in her account than Ricky will have in his account?

MEDIUM

1. If the amount of bacteria in a colony doubles every hour, which of the following cannot be a relative factor of the population of bacteria?

Equation/Strategy: _____

Solve:

(a) $1/2$
(b) 0
(c) 1
(d) 2
(e) 8

---

2. f has the property that $f(\square) = \clubsuit$ and $f(\clubsuit) = \square$ for all $\clubsuit$ and $\square$. Which of the following represents the equation for f in terms of x?

Equation/Strategy: _____

Solve:

(a) $f(x) = x$
(b) $f(x) = x^2$
(c) $f(x) = 0$
(d) $f(x) = 1$
(e) $f(x) = \sqrt{x}$

ADVANCED

3. The odds of choosing a prime number out of x terms is m and the odds of choosing and even number out of the same x terms is n. What are the odds of choosing an even prime out of x^2 terms?

Equation/Strategy: _____

Solve:

(a) $1/mn$
(b) $1/x$
(c) $1/x^2$
(d) $1/(m+n)$
(e) Cannot be determined

---

4. If Kat is on a swing that starts at a height of h off the ground and reaches the ground after $t/3$ seconds, at what position will she be at $15t$ relative to her beginning position?

Equation/Strategy: _____

Solve:

(a) h
(b) $-h$
(c) 0
(d) $2h$
(e) $-2h$

6 Newly Defined Symbols Based on Commonly Used Operations

General Equation: Use the notation as you would with variables

Example 1: If $f \otimes g$ is defined as $f \cdot g - (f + g)$, what must be true of f and g so that $f \otimes g = 0$?

Example 2: If $f\%g$ is defined as the remainder of f when divided by g, what is $(x - 4x + 4)\%(x - 2)$?

Example 3: S is a set with elements $s_1, s_2, \ldots s_n$. Let $S \bullet S$ be defined as $s_1 \cdot s_1 + s_2 \cdot s_2 + \ldots s_n \cdot s_n$. If $S \bullet S = 0$ what must be true of the elements of S?

MEDIUM

1. If $x^2 - 64 = 36$ and $x - 8 = 9$, what is the value of $x + 8$?

Equation/Strategy: _____

Solve:

(a) 4
(b) 18
(c) 25
(d) 64
(e) 100

---

2. $i\#a$ is defined as i^a. If $i\#2 = -1$ and $i\#3 = -i$, what is the value of $i\#115$?

Equation/Strategy: _____

Solve:

(a) 1
(b) -1
(c) i
(d) $-i$
(e) 0

ADVANCED

3. $\lfloor x \rfloor$ is defined as the greatest integer less than or equal to x whereas $\lceil x \rceil$ is defined as the least integer greater than or equal to x. What is the value of $\lfloor \lceil x \rceil \rfloor$

Equation/Strategy: _____

Solve:

(a) 1
(b) 0
(c) x
(d) x^2
(e) Cannot be determined

---

4. The ternary operation $a@b@c$ is defined as $a = b$ when $a \geq 0$, and $a = -a$ when $a < 0$. What is the value of $a^2@ - \left|a^2\right| @\sqrt{(-a^2)^2}$?

Equation/Strategy: _____

Solve:

(a) $-a^2$
(b) a^2
(c) $\left|-a^2\right|$
(d) $\sqrt{a^4}$
(e) $\sqrt{-a^4}$

6

Geometry and Measurement: Part I

1 Area and Perimeter of a Polygon

General Equation:

Area	Perimeter
The measure of the surface of a two-dimensional shape	The measure of the distance around a two-dimensional shape

Example 1: The lengths of an n-sided figure are each doubled. If the perimeter of the original n-sided figure was P, what is the value of the new perimeter?

Example 2: A circle inscribed in a box has a radius equal to half of the diameter of the box. What area of the circle is not in the square if the radius is 1?

Example 3: A pizza box has a perimeter that is 1.5 times the circumference of the pizza. If the pizza has a diameter of 16 inches, what is the difference between the perimeter of the box and the circumference of the pizza?

MEDIUM

1. A square is inscribed in a circle. If the area of the square is 9 sq. in., what is the difference between the circumference of the circle and the perimeter of the square?

   Equation/Strategy: _____

   Solve:

   (a) $3\sqrt{2}\pi - 12$
   (b) $12 - 3\sqrt{2}\pi$
   (c) $6\sqrt{2}\pi - 12$
   (d) $12 - 6\sqrt{2}\pi$
   (e) 3

---

2. A right triangle has an area of b sq. units. If a rectangle has a height equivalent to the height of the right triangle, and a base equivalent to twice the base of the right triangle, what is the area of the rectangle in terms of a?

   Equation/Strategy: _____

   Solve:

   (a) a
   (b) $2a$
   (c) $4a$
   (d) a^2
   (e) $2a^2$

ADVANCED

3. A rectangle whose width is twice its height is inscribed in a semicircle whose radius is equal to width of the rectangle. If h is the height of the rectangle, which expression represents the area of the semicircle not in the area of the rectangle?

   Equation/Strategy: _____

   Solve:

   (a) $2w^2(\pi - 1)$
   (b) $2w^2(9w^2\pi - 1)$
   (c) $2w^2(2\pi - 1)$
   (d) $2w^2(2\pi - 1)$
   (e) $w^2(\pi - 2)$

---

4. Triangle A is inscribed in equilateral triangle B so that the vertices of A are the midpoints of the sides of B. If the area of B is 12 sq. units, what is the area of the B with A removed?

   Equation/Strategy:

   Solve:

   (a) 6 sq. units
   (b) 7 sq. units
   (c) 8 sq. units
   (d) 9 sq. units
   (e) 12 sq. units

2 Area and Circumference of a Circle

General Equation:

Area of a Circle	Circumference of a Circle
$A = \pi r^2$	$C = 2\pi r$

Example 1: Sally baked a chocolate cake that has a diameter of 10 inches. How much frosting is required to cover the top of the cake?

Example 2: A car's wheel travels at 10 revolutions before coming to a stop. If the diameter of the tire is 2 ft, what is the total distance the wheel has traveled?

Example 3: If a minute hand on a clock is 7cm longs and moves from 0 minutes to 25 minutes, what is the length of the distance traveled by the minute hand?

MEDIUM

1. The circumference of a circle is 6 cm. What is the area of one-sixth of the circle?

Equation/Strategy: _____

Solve:

(a) $\frac{3}{2\pi}$
(b) $\frac{3\pi}{2}$
(c) 9π
(d) $\frac{3}{2}$
(e) $\frac{2}{3}$

---

2. The area of the shadow of a basketball is directly proportional to the distance of the ball to the ground. If the area of the shadow of a basketball is 27 sq. in when the ball is 4 feet from the ground, what is the length of the radius when the ball is 2 feet from the ground?

Equation/Strategy: _____

Solve:

(a) $\frac{3\sqrt{6\pi}}{2\pi}$ sq. in.
(b) $\sqrt{\frac{27\pi}{2}}$ sq. in.
(c) $\sqrt{\frac{27}{\pi}}$ sq. in.
(d) 13.5 sq. in.
(e) 54 sq. in.

ADVANCED

3. A outdoor circular pool is drained and covered with a tarp at the end of the season. If the tarp is one foot wider on all sides than the pool, and the area of the pool is 16 square feet, how much longer is the circumference of the tarp than the circumference of the pool?

Equation/Strategy: _____

Solve:

(a) 2π
(b) $8\sqrt{\pi} + 2\pi$
(c) $8\sqrt{\pi} - 4\sqrt{\pi}$
(d) $8\sqrt{\pi} - 2\pi$
(e) $\frac{4\sqrt{\pi}}{\pi} + 1$

---

4. A circular track consists of two concentric circles. Runner A runs a lap on the inner most track in 15 minutes, while runner B runs on the outer most track in the same time. How much faster was the rate of runner B if the outer track is 2 meters further away from the center of the track?

Equation/Strategy:

Solve:

(a) $\frac{2\pi}{15}$
(b) $\frac{4\pi}{15}$
(c) $\frac{2}{15}$
(d) $\frac{4}{15}$
(e) $\frac{\pi}{15}$

3 Volume of a Box, Cube, and Cylinder

General Equation:

Volume of a Box	**Volume of a Cube**	**Volume of a Cylinder**
$V = l \times w \times h$	$V = s^3$	$V = \pi r^2 h$

Example 1: Kallie is filling her bookshelf with books that are $8 \times 5 \times 2$ in^3. If Kallie has 16 such books, how much volume do the books occupy?

Example 2: A cube is made by stacking smaller 4×4 smaller cubes. What is the total volume of the cube?

Example 3: Pete stacks pizza pies on each other in a freezer for later heating. The pizzas are 2 inches thick and have a diameter of 16 inches. What volume do 10 pizzas occupy?

MEDIUM

1. A rectangular box has a volume of 36 in^3 If cubes of side length 2 are placed into the rectangular box, what is the least amount of volume of the box not filled by the cubes?

Equation/Strategy: _____

Solve:

(a) 0 in^3
(b) 2 in^3
(c) 4 in^3
(d) 6 in^3
(e) 8 in^3

---

2. A cylinder is placed in a rectangular box so that the diameter of the cylinder is the width and height of the rectangle. What is the ratio of volume of the cylinder to the volume of the box?

Equation/Strategy: _____

Solve:

(a) $4 - \pi$
(b) $\frac{4}{\pi}$
(c) $\frac{\pi}{4}$
(d) $\frac{8}{\pi}$
(e) $\frac{\pi}{8}$

ADVANCED

3. A cube of volume V of integer side length s is split into 6 smaller rectangular boxes of equal volume. What is the value of V if it is the smallest such cube?

Equation/Strategy: _____

Solve:

(a) 6
(b) 36
(c) 64
(d) 125
(e) 216

---

4. Cubic blocks are stored in a cylindrical container so that the diagonal length of the cube is the diameter length of the cylinder. If the height of the cylinder is 5 times the radius, what is the most number of cubes that fit into the cylinder?

Equation/Strategy:

Solve:

(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

4 Pythagorean Theorem and Special Properties of Isosceles, Equilateral, and Right Triangles

General Equation:

The Pythagorean Theorem

$$a^2 + b^2 = c^2$$

Example 1: The perimeter of an equilateral triangle is 16 cm. What is the triangle's area?

Example 2: Gretchen and Samuel leave school. Gretchen walks 45° due south west and Samuel walks 45° due south east. If they each live a quarter mile away from school, what is the distance between their houses?

Example 3: A 13 ft ladder is propped up against a wall. If the base of the ladder to the base of the wall is equidistant of the top of the ladder to the base of the wall, what is the difference between the length of the ladder and the base of the ladder to the base of the wall?

MEDIUM

1. The area of an equilateral triangle is 16 cm^2. What is the triangle's perimeter to the nearest hundredth?

   Equation/Strategy: _____

   Solve:

   (a) 3.04
   (b) 6.07
   (c) 6.08
   (d) 18.23
   (e) 18.24

2. The ratio of the sides of a right triangle are in a proportion of $2 : 3 : x$ where x is the proportion of the longest side. If the hypotenuse is 27 units long, what the area of the triangle to the nearest hundredth?

   Equation/Strategy: _____

   Solve:

   (a) 168.23
   (b) 168.20
   (c) 243
   (d) 292.04
   (e) 292.05

ADVANCED

3. The hypotenuse of a right triangle is twice as long as the shortest side. If the length of the longer leg is 10 cm, what is the perimeter of the triangle?

   Equation/Strategy: _____

   Solve:

   (a) $10 + 10\sqrt{3}$
   (b) $20 + \sqrt{3}$
   (c) $20 + 10\sqrt{3}$
   (d) $30 + 10\sqrt{3}$
   (e) 30

4. The side lengths of a rectangle are in a proportion of $a : a + 4$. If the perimeter is 76 sq. units, what is the length of the hypotenuse?

   Equation/Strategy:

   Solve:

   (a) 12 units
   (b) 16 units
   (c) 24 units
   (d) 20 units
   (e) 40 units

7

Geometry and Measurement: Part II

1 Properties of Parallel and Perpendicular lines

General Equation: For lines L_1 and L_2 with slopes m_1 and m_2 respectively

Parallel Lines	Perpendicular Lines
$m_1 = m_2$	$m_1 \cdot m_2 = -1$

Example 1: Two planes are traveling parallel to one another. If the first plane travels in a direction 30 miles north and 40 miles east of where it began, and the second plane travels 60 miles north of where it began, how far east must it travel in order to remain parallel to the first plane?

Example 2: Two cars starting at the same location are traveling perpendicular to one another. What is the distance between the two cars if the first car has traveled 30 miles in one hour and the second car has traveled 40 miles in one hour?

Example 3: A frog's tongue shoots straight up into the air to catch a fly that is flying horizontally. If the distance from the fly's speed is 6 meters per second and the speed between the frog and the fly is 20 meters per 2 seconds, how fast must the frog's tongue move in order to catch the fly?

MEDIUM

1. Roads A and B are parallel roads. If Road C runs perpendicular to road A, which of the following must be true?

   I. Road C is perpendicular to Road B

   II. Road A and C form a 90° angle

   III. The distance between Road A and Road B is uniform

   Equation/Strategy: _____

   Solve:

   (a) I only
   (b) II only
   (c) III only
   (d) I and II are true
   (e) I, II, and III are true

---

2. Two dogs are running perpendicular paths, starting at the same location. If the first dog runs m meters in 5 minutes, and the second dog runs m meters in 10 minutes, which of the following represents the distance between the dogs after 10 minutes?

   Equation/Strategy: _____

   Solve:

   (a) $m\sqrt{2}$
   (b) $m\sqrt{3}$
   (c) $\sqrt{2m^2 + m^2}$
   (d) $\sqrt{\frac{m^2}{2} + m^2}$
   (e) $\sqrt{4m^2 + m^2}$

ADVANCED

3. A set of parallel roads runs perpendicular to a second set of parallel roads. If the distance between each intersection along the road is at most m km, which of the following cannot be the distance between diagonal intersections?

   Equation/Strategy: _____

   Solve:

   (a) m
   (b) $2m$
   (c) $\frac{m}{2}$
   (d) $\frac{m\sqrt{2}}{2}$
   (e) $m\sqrt{2}$

---

4. A pair of parallel chords are inscribed in a circle, equidistant from the center. If the distance between the chords is equal to the radius, r, what is the length each chord in terms of r?

   Equation/Strategy:

   Solve:

   (a) $\frac{r\sqrt{3}}{2}$
   (b) $r\sqrt{3}$
   (c) $\frac{3r^2}{4}$
   (d) r
   (e) $2r$

2 Slope

General Equation: Slope indicates the steepness of a line. The slope is denoted as a ratio of the rise over the run of a line, or the change in the vertical distance over the change in the horizontal distance between any two points on a line. For two points (x_1, y_1) and (x_2, y_2), the slope, m, is

$$m = \frac{\text{change in } y}{\text{change in } x} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

Example 1: Points $(2, 3)$ and $(5, k)$ lie on the line $3x - my = 6$. What is the value of k in terms of m?

Example 2: What is the slope of the line formed when connecting the minute hand and the hour hand on a clock at 9 am if the distance between them is twice the length of the hour hand?

Example 3: A toy rocket is launched from the ground at a 60° angle into the air. Assuming the rocket travels a straight path, what is the slope of its path from the ground to its maximum?

MEDIUM

1. A ski lift travels 1500 feet at a 60° angle of elevation to the top of a mountain. What is the slope of the path that the ski lift travels?

   Equation/Strategy: _____

   Solve:

   (a) $\sqrt{3}/3$
   (b) $1/2$
   (c) $\sqrt{3}/2$
   (d) $2\sqrt{3}/3$
   (e) $\sqrt{3}$

---

2. If the line $3x + ky = 8$ passes through point $(-4, 5)$, what is the value of k?

   Equation/Strategy: _____

   Solve:

   (a) $-4/5$
   (b) $7/4$
   (c) 4
   (d) 5
   (e) $23/4$

ADVANCED

3. An equilateral triangle is drawn in the first quadrant with coordinates $(0, 0)$ and $(6, 0)$. What is the slope of the line formed from the point at the origin to the third point?

   Equation/Strategy: _____

   Solve:

   (a) $1/2$
   (b) $\sqrt{3}$
   (c) 2
   (d) 3
   (e) 6

---

4. L_1 and L_2 are two lines with slopes m_1 and m_2 respectively. If $m_1 \cdot m_2 = 1$, which of the following cannot be true?

   Equation/Strategy:

   Solve:

   (a) L_1 and L_2 are parallel lines
   (b) L_1 and L_2 are intersecting lines
   (c) L_1 and L_2 are perpendicular lines
   (d) L_1 and L_2 are coinciding lines
   (e) m_1 and m_2 are reciprocals

3 Similarity

General Equation: Two polygons are similar if all corresponding sides are in proportion.

Example 1: Square ABCD and square EFGH have side lengths in a ratio of 1 : 2. What percentage increase is the area of EFGH to ABCD?

Example 2: Line segment DE is drawn in triangle ABC so that D is the midpoint of AB and E is the midpoint of AC. What is the ratio of the areas of ADE to EDBC?

Example 3: Two concentric circles are drawn such that the radius of the outer circle is twice the diameter of the inner circle. What percentage is the circumference of the outer circle to the circumference of the inner?

MEDIUM

1. The circumference of a children's basketball is 27.5 inches whereas the circumference of an NBA basketball is 29.5 inches. What is the ratio of their volumes?

   Equation/Strategy: _____

   Solve:

   (a) 55 : 59
   (b) 351 : 433
   (c) 351 : 434
   (d) 437 : 469
   (e) 438 : 470

---

2. An equilateral triangle is inscribed in another so that only the vertices of the inner triangle touch the edges of the outer. What is the greatest possible ratio of the area of the smaller triangle to the bigger one?

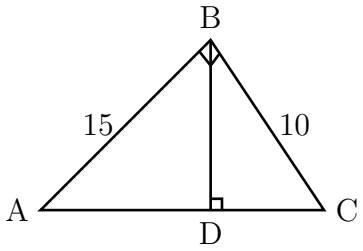
   Equation/Strategy: _____

   Solve:

   (a) 1 : 9
   (b) 1 : 4
   (c) 1 : 3
   (d) 1 : 2
   (e) 2 : 3

ADVANCED

3. Right triangle BDC is similar to triangle ABC as shown below.



   If AB = 15 and BC = 10, what is the length of BD?

   Equation/Strategy: _____

   Solve:

   (a) 7.5
   (b) 8
   (c) 12.5
   (d) $\frac{30\sqrt{13}}{13}$
   (e) $150 - \sqrt{325}$

---

4. What is the ratio of the diagonal of the a cube with a volume of 8 cm^3 to the diagonal of a cube with a volume of 64 cm^3?

   Equation/Strategy:

   Solve:

   (a) 1 : 8
   (b) 1 : 4
   (c) 1 : 2
   (d) $\sqrt{2} : 4$
   (e) $\sqrt{2} : \sqrt{3}$

4 Transformations

General Equation: Let $f(x)$ be a function. Then the function

$$g(x) = a \cdot f(b(x-h)) + k$$

is a transformation of $f(x)$ where

- a is the vertical stretch/compression
  - If $|a| < 1$, then g is a vertical stretch of f
  - If $|a| > 1$, then g is a vertical compression of f
  - If a is negative, then g is a reflection of f about the $x-$axis
- b is the horizontal stretch
  - If $|b| < 1$, then g is a horizontal stretch of f
  - If $|b| > 1$, then g is a horizontal compression of f
  - If b is negative, then g is a reflection of f about the $y-$axis
- h is the horizontal shift
  - If $h > 0$, then g is a horizontal shift of f by h units to the right
  - If $h < 0$, then g is a horizontal shift of f by h units to the left
- k is the vertical shift
  - If $k > 0$, then g is a vertical shift of f by k units up
  - If $k < 0$, then g is a vertical shift of f by k units down

Example 1: Describe the transformation of f by the function $2 \cdot g(x) + 3 = f(x)$.

Example 2: If $f(3) = -2$, and $g(x) = f(x-2)+3$, what coordinate must be on the graph of g?

Example 3: Let $g(x) = |f(x-1) - 2| - 3$. What is the vertical shift of $f(x)$ by $g(x)$?

MEDIUM

1. If $g(x) = |f(x)|$ and $(-x, y)$ is a coordinate of $f(x)$, which of the following is a coordinate of $g(x)$?

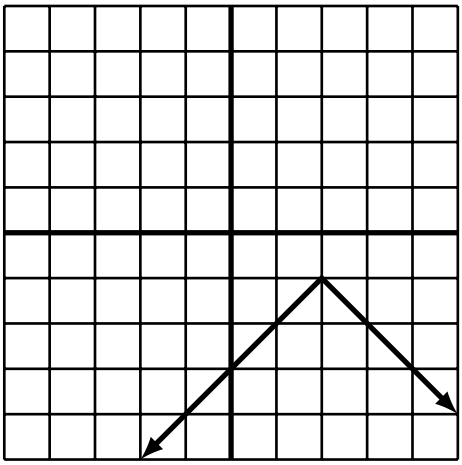
   Equation/Strategy: _____

   Solve:

   (a) (y, x)
   (b) (x, y)
   (c) $(x, -y)$
   (d) $(-x, y)$
   (e) $(-x, -y)$

---

2. The graph of $g(x)$ is shown below.



   If $g(x)$ is a transformation of $|x|$, which of the following is the equation of $g(x)$?

   Equation/Strategy: _____

   Solve:

   (a) $-|x-2|-1$
   (b) $|2-x|-1$
   (c) $-|x+2|-1$
   (d) $-|x+1|+2$
   (e) $-|x-1|+2$

ADVANCED

3. Which of the following can represent a transformation of the function $f(x)$?

   Equation/Strategy: _____

   Solve:

   (a) $\dfrac{1}{1/f(x)}$
   (b) $f(f^{-1}(f(x))$
   (c) $\sqrt[3]{f(x)^3}$
   (d) $\sqrt{f(x)^2}$
   (e) $f(x \cdot 0!)$

---

4. The function $f(x)$ has a coordinate $(m, -n)$. $f(x)$ is shifted k units down and g units right, then reflected across the line $y = x$. Which of the following is the resulting coordinate of the transformation?

   Equation/Strategy:

   Solve:

   (a) $(-m-g, n+k)$
   (b) $(-n+k, m-g)$
   (c) $(m-g, -n+k)$
   (d) $(-n-k, m-g)$
   (e) $(m-g, -n-k)$

8

Geometry and Measurement: Part III

1 Coordinate Geometry

General Equation:

Distance Formula

$$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Midpoint Formula

$$P = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

Example 1: Points A and B are 5 units apart. If point A is located at $(3, 4)$, what is the coordinate of B if it is located in the fourth quadrant?

Example 2: Points P and Q have coordinates $(3, k)$ and $(n, 6)$ respectively. If point R is their midpoint and has a coordinate of $(10, 4)$, what is the value of $n + k$?

Example 3: What is the area of the triangle formed by the points $(3, 1), (9, 7)$, and $(3, 7)$?

MEDIUM

1. The coordinate $(4, 6)$ is the midpoint of $(14, 8)$ and which of the following?

   Equation/Strategy: _____

   Solve:

   (a) $(-10, -2)$
   (b) $(-4, 4)$
   (c) $(9, 7)$
   (d) $(10, 2)$
   (e) $(24, 10)$

---

2. A circle centered at the point $(8, 12)$ passes through the point $(12, 8)$. What is the length of the circle's diameter?

   Equation/Strategy: _____

   Solve:

   (a) $\sqrt{8}$
   (b) $\sqrt{32}$
   (c) $2\sqrt{32}$
   (d) 16
   (e) 32

ADVANCED

3. The vertices of a triangle have the coordinates $(1, 2), (3, 4)$, and $(5, 6)$. What is the perimeter of the triangle?

   Equation/Strategy: _____

   Solve:

   (a) $\sqrt{32}$
   (b) $8\sqrt{2}$
   (c) $8 + 4\sqrt{2}$
   (d) 8
   (e) 24

---

4. The vertices of a parallelogram are given by the coordinates $(3, 3), (3, m), (1, 1)$, and $(1, n)$. If the area of the parallelogram is 12, what is the value of $m + n$?

   Equation/Strategy:

   Solve:

   (a) 6
   (b) 12
   (c) 14
   (d) 16
   (e) 18

2 Geometric Visualization

General Equation:

Example 1: An northward facing arrow is rotated 45° counterclockwise, then flipped vertically and horizontally. What direction is the arrow now facing?

Example 2: Opposite sides of dice have a sum of 7. If John rolls a die three times and the sum of his rolls is 7, what is the sum of the opposite sides of the same three rolls?

Example 3: A right isosceles triangle with a radius of 2 is rotated about its right angle to form a 3-dimensional solid. What is the volume of the resulting shape?

MEDIUM

1. If a circle is cut into regions by three lines, what is the maximum number of regions formed?

   Equation/Strategy: _____

   Solve:

   (a) 3
   (b) 4
   (c) 5
   (d) 6
   (e) 7

---

2. A square piece of paper of side length 10 is folded along its diagonal to make a triangle. The triangle is then folded symmetrically in half down the middle, resulting in another triangle. What is the perimeter of the final triangle?

   Equation/Strategy: _____

   Solve:

   (a) 10
   (b) 15
   (c) $10\sqrt{2}$
   (d) $5 + 5\sqrt{2}$
   (e) $10 + 10\sqrt{2}$

ADVANCED

3. The steering wheel of a boat has 4 spokes, colored red, blue, green, and purple in that order going clockwise. If the red spoke faces east when the boat is at rest, what color faces north when the wheel has rotated 2.5 times counterclockwise?

   Equation/Strategy: _____

   Solve:

   (a) Red
   (b) Blue
   (c) Green
   (d) Purple
   (e) Cannot be determined

---

4. A roll of tape has a tube with a diameter of 10 cm and a uniform layer of tape that is 5mm. If the tape has a thickness of 1mm, what is the approximate length of the tape unraveled?

   Equation/Strategy:

   Solve:

   (a) 157 cm
   (b) 314 cm
   (c) 1.57 cm
   (d) 3.14 cm
   (e) 15708 cm

9

Data Analysis, Statistics, and Probability

1 Data Interpretation with Tables

General Equation:

Conv/Org	City	Jan	Feb	Mar	Apr	May	June
Conv	Atlanta	12.50	12.25	11.50	11.81	11.08	12.68
Org	Atlanta	24.97	23.93	30.63	28.39	31.39	31.25
Conv	San Fran	6.60	7.28	6.87	6.71	8.03	7.84
Org	San Fran	22.00	22.00	22.00	22.00	22.00	21.96

Figure 9.1: Prices by city of 1 unit of conventional vs organic produce in 2012

Example 1: According to the table above, which city has the higher average cost of organic produce per unit from January to June?

Example 2: Approximately what percentage of the average cost of conventional produce of Atlanta is the average cost of organic produce of San Fransisco?

Example 3: What ratio of months in either city was the cost of 3 units of conventional produce lower than the cost of 1 unit of organic produce?

Births in Massachusetts in 2012

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Births	5,600	5,266	5,957	5,872	6,398	6,179	6,464	6,413	6,211	6,270	5,954	5,855

Table 9.1: Births in 2012 by month

Day	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Births	648	870	1,001	836	807	817	621

Table 9.2: Births in January 2012 by day

MEDIUM

1. If there were 72,439 births in Massachusetts in 2012, what ratio of months were the number of births above the average?

   Equation/Strategy: _____

   Solve:

   (a) 1/6
   (b) 1/4
   (c) 1/3
   (d) 1/2
   (e) 2/3

---

2. Approximately what percentage of babies were born on a weekday in January?

   Equation/Strategy: _____

   Solve:

   (a) 74%
   (b) 77%
   (c) 78%
   (d) 79%
   (e) 82%

ADVANCED

3. Approximately what percentage of the month with the lowest number of births does the difference between that month and the month with the highest number of births represent?

   Equation/Strategy: _____

   Solve:

   (a) 19%
   (b) 20%
   (c) 21%
   (d) 22%
   (e) 23%

---

4. If there were 5 Sundays, Mondays, and Tuesdays in January of 2012, and only 4 of every other day, which day had the highest average number of births for the month?

   Equation/Strategy:

   Solve:

(a) Monday

(b) Tuesday

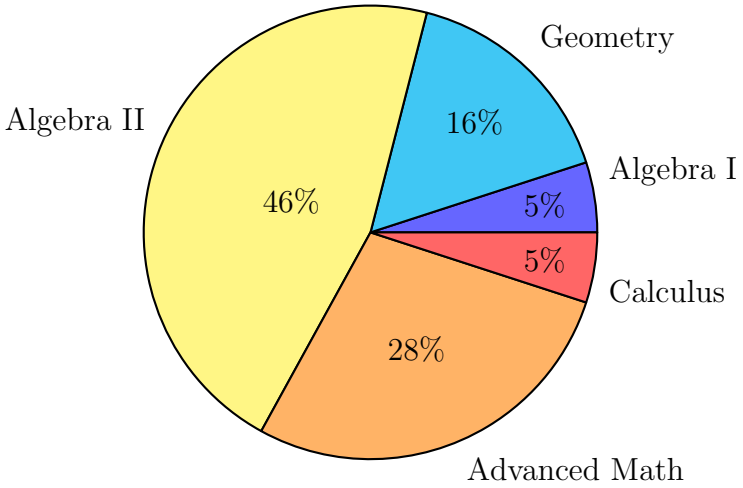
(c) Wednesday

(d) Thursday

(e) Friday

2 Data Interpretation with Graphs

General Equation:



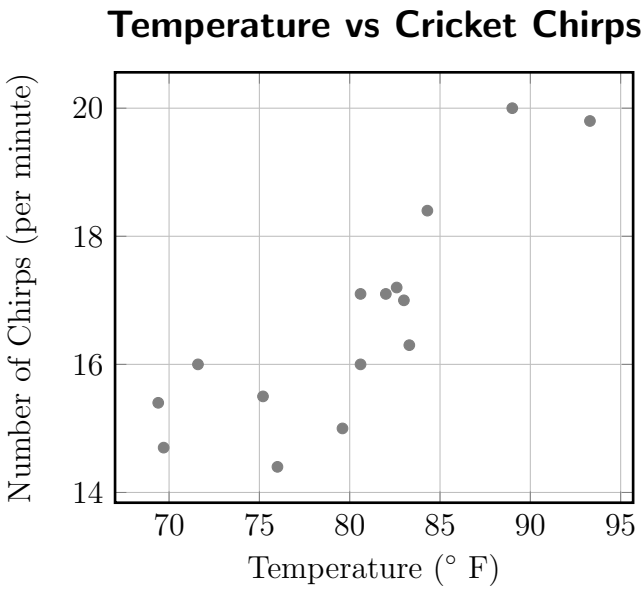
The graph above indicates the highest level of math completed by high school graduates in the U.S. in 2005.[1]

Example 1: What proportion of students completed Algebra II or Advanced Math over all other courses?

Example 2: If there are 4200 students in Advanced Algebra, how many students are in Geometry?

Example 3: If the total number of students represented by the graph is 12,000, how many more students are in geometry than in Algebra I or Calculus?

[1] U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), Mathematics Curriculum Study, 2005.



The graph above shows the number of chirps a cricket makes per minute versus the temperature of its habitat in degrees Fahrenheit.

MEDIUM

1. How many points recorded less than 16 chirps for temperatures less than 75° F?

   Equation/Strategy: _____

   Solve:

   (a) 0
   (b) 1
   (c) 2
   (d) 3
   (e) 4

---

2. Which of the following is likely not a point on the graph?

   Equation/Strategy: _____

   Solve:

(a) $(60, 14)$

(b) $(70, 14)$

(c) $(80, 18)$

(d) $(90, 18)$

(e) $(100, 20)$

ADVANCED

3. What is the difference in temperature between the temperatures of the highest and lowest number of chirps per minute recorded?

   Equation/Strategy:

   Solve:

   (a) 5
   (b) 5.5
   (c) 6
   (d) 13
   (e) 15

---

4. Of the 15 points recorded in this dataset, what proportion of the points are represented by a rate of 5° F per chirp or greater?

   Equation/Strategy: _____

   Solve:

   (a) 1/15
   (b) 2/15
   (c) 1/5
   (d) 4/15
   (e) 1/3

3 Descriptive Statistics: Mean, Median, and Mode

General Equation:

Mean - The sum of all terms in a list, divided by the number of terms

Median - The middle value in an ordered list

Mode - The value that occurs most often

Example 1: The average (arithmetic mean) of Sally's previous three tests is 85. If a fourth test boosts her test average up by 2 points, what grade did she receive on her the fourth test?

Example 2: The median of a set of four numbers is 10. If a large number greater than the other numbers in the set is added to the set, the median becomes 12. What is the value of the second lowest number in the set?

Example 3: A set of five numbers has a mode of 10. If the average of the set is 25 and the maximum is 50, how many values in the set are equal to the mode?

MEDIUM

1. **Equation/Strategy:** _____

   Solve:

   (a)

   (b)

   (c)

   (d)

   (e)

   Equation/Strategy: _____

   Solve:

2. (a)

   (b)

   (c)

   (d)

ADVANCED

(e)

3. **Equation/Strategy:** _____

   Solve:

   (a)

   (b)

   (c)

   (d)

   (e)

   Equation/Strategy:

   Solve:

4. (a)

   (b)

   (c)

   (d)

   (e)

4 Probability

General Equation:

Example 1:

Example 2:

Example 3:

MEDIUM

1. **Equation/Strategy:** _____

   Solve:

   (a)

   (b)

   (c)

   (d)

   (e)

   Equation/Strategy: _____

   Solve:

2. (a)

   (b)

   (c)

   (d)

ADVANCED

(e)

3. **Equation/Strategy:** _____

   Solve:

   (a)

   (b)

   (c)

   (d)

   (e)

   Equation/Strategy:

   Solve:

4. (a)

   (b)

   (c)

   (d)

   (e)

Part II

SAT Verbal

10

The Six Most Frequently Missed Errors on SAT Writing Multiple Choice: Strategies for Sentence Improvements and Sentence Errors

1 The Six Most Frequently Missed Errors on SAT Writing Multiple Choice: Strategies for Sentence Improvements and Sentence Errors

1.1 SAT Worksheet: Warm-Up

Directions: Please order the following types of questions on the SAT writing section from 1 to 4 where 1 is the most difficult type of question for you and 4 is the least difficult types of questions for you.Then, do the example of Improving Sentences and Sentence Errors on the sheet.

_____ **Improving Sentences**

The travel guide is useful because it covers not just reviews and photos, but also tells you what and how to get to various destinations.

(A) but also tells you what and how to get to various destinations.

(B) but also they gives ways of getting to various destinations.

(C) but also advice of what and how to get to various destinations.

(D) but also tells you what to do and how to get to various destinations.

(E) and also tells you what to do and how to get to various destinations.

_____ **Sentence Errors** Jean Rhys, whose (A) Dominican background has influenced (B) her writing, describes (C) many details of life in the Caribbean Islands vividly (D) in her novels and short stories. No Error (E)

_____ **Paragraph Improvements**

_____ **Essay**

2 About the SAT Writing Section

Your score on the SAT writing section is dependent upon your performance in three sections, two multiple choice sections and one essay section. In this section, we will concentrate on the multiple choice sections. There are two multiple choice sections, one with _____ questions to be completed in _____ minutes and one with _____ questions to be completed in _____ minutes.

3 Types of Writing Multiple Choice Questions

1. The first type of writing multiple choice questions is _____

   - In this type of question, one part of a sentence will be underlined and you will be asked to pick the version of the underlined part of the sentence.
   - This type of question is found in both the 25-minute and the 10-minute multiple choice sections.

2. The second type of writing multiple choice questions is _____

   - In this type of question, you will be asked to identify whether or not there is an error in the sentence given, and if so, circle the location of the error. You will not be asked to correct the error on the SATs.
   - This type of question is found in the 25-minute multiple choice section only.

3. The last type of writing multiple choice questions is _____

   - Approximately half of the questions are sentence improvement and sentence revision.
   - The other questions are paragraph or essay structure and logic questions.
   - There are a total of 6 paragraph improvement questions on the SATs, all in the 25-minute section.

4 Mastering Sentence Improvement and Sentence Error Questions

The SAT Writing multiple choice section may seem intimidating at
rst, as there is a lot of reading (particularly for the sentence improvement and paragraph improvement questions) as well as many questions to answer in each section. However, the SAT tests standard English grammar, which means that if students learn a handful of grammar rules–particularly the ones featured in this section–then they will be able to complete many questions in the SAT writing section carefully.

Remember, the SATs tests **proper grammar** as well **conciseness**. How we talk is not always grammatically correct, and therefore not the correct answer on the SATs. Be cautious of this, particularly on the later (more difficult) questions. We will address the issue of conciseness in the next chapter, but usually if you have narrowed a question down to two or three answer choices that are each grammatically correct, the correct answer is the shortest answer choice.

Verb tense, pronouns, misplaced modi
ers, parallelism, faulty conjunctions, and idioms are the six most commonly missed errors on the SAT Writing multiplce choice section. By reviewing these grammar concepts as well as completing the practice problems, you should be able to answer SAT Writing multiple choice questions more accurately.

5 Verb Tense

Verbs must agree with their subject in number. Many errors on the SAT writing section is related to subject-verb agreement and verb tense.

5.1 Subject-Verb Agreement

- This is manageable when sentences are straightforward.
- For example, fill in the following blanks: He smart. They _____ smart.
- The SATs will separate the subject and the verb with prepositional phrases or descriptions with commas in order to make the question more difficult. An SAT question may also put the verb before the subject.
- For example: Stephen for more than two weeks is happy because of his most recent grades. To solve this type of question, identify the subject and cross out prepositional phrase. Then, identify the correct verb form.

  Looking at it like this indicates that the subject is "Stephen" and so "is" is correct form of the verb.
- For example: The group, consisting of two adults and five children, camping this weekend. To solve this type of question, identify the subject and cross out description (between the commas). Then, identify the correct verb form.

  The subject is "the group" and so "'is" is correct form of the verb.
- For example: Running the girls' favorite sport. To solve this type of question, rearrange the sentence so that the subject comes before the verb. Then, identify the correct verb form.

  The sentence is re-arranged as "'The girls' favorite sport _____ running." Therefore, the correct verb form is "'is".

6 SAT Worksheet: SAT Writing Multiple Choice Practice with Subject-Verb Agreement

Directions: In the following sentences, box the subject and circle the verb that agrees with the subject.

1. I never havehas long fingernails because I bit them.
2. Finding happiness from multiple sources isare important.
3. The dolls in the storage closet sitssit on the shelf.
4. Plastic engineering, a booming field in many countries, havehas many important applications.
5. Reading papers isare the best part of my day.
6. The trails, which I climb daily, widenwidens towards the end.

6.1 Using the Correct Verb Tense

Knowing when to use different verb tenses are important for SATs. Sometimes, you can look for clues based on other part of the sentence. For example, Based on his previous experiences, Jared decides/decided to pursue a career in education.

It can be difficult to determine if something should be simple present, past, or future versus present perfect, past perfect, and future perfect. For example, when should you use waited versus had waited"?

- We use the simple tenses when there is one year or date. For example, World War II beganhad begun in 1939.
- We use past perfect when an action has started and it is interrupted by another action (past tense). For example, World War II occurredhad occurred for two years before the United States entered it in 1941.
- We use present perfect for an action that began in the past and continues to the persent. Explain the difference between the following sentences:

    1. Scott had lived in New York for five years before he decided to move.
    2. Scott has lived in New York for five years, although he is currently considering moving.
    3. "The conditional (would) is used for hypothetical situations. The basic formula is If . . .were . . .would". If I *waswere* to win the lottery, then I *would* travel around the world.

7 Pronouns

Some common pronoun rules tested on the SAT Writing Section are agreement, unclear pronouns, and inconsistent point of view.

7.1 Agreement with the Antecedent

1. What is an antecedent? _____
2. Circle the antecedent and box the pronoun in the following sentence: Kenna the dog plays with her favorite chew toys daily.

7.2 Unclear Pronouns

Pronouns need to be clear regarding who or what they are referring to.

1. Emily and Kate are going to her house today. Why is this sentence incorrect?

   _____

2. She is going to teach them today. Why is this sentence incorrect?

   _____

3. The amusement park rides are full of mice, therefore we will avoid them. Why is this sentence incorrect?

   _____

4. Write a possible correction to the following sentence: The amusement park rides are full of mice, therefore we will avoid them.

   _____

7.3 Consistent Point of View

Each sentence or paragraph needs to have the same point of view. For example, the following sentence is incorrect:

If one wants to go to the store, then I recommend that you find a driver.

- **Correct:** If you want to want to go to the store, then I recommend that you find a driver.
- **Another correct version of this sentence is,** If one wants to go to the store, I recommend that one finds a driver.
- Circle the following choice that makes the sentence correct: Youone should never complain, even when one is given a difficult task.
- Why is the answer that you circled correct? _____

8 Misplaced Modifiers

A modifier is a group of word describing a noun or pronoun. In proper grammar (a.k.a. on the SATs), modifiers need to be next to what they are describing.
For example,

- **Incorrect:** Running down the street, the trash can was in Laurens way.
- The problem here is that we know Lauren is running down the street but the sentence implies that the trash can is running because trash can is what comes directly after the modifier.
- **Better but still wrong:** While running down the street, Laurens way was blocked by a trash can. In this case Lauren's way appears to be running down the street.
- **Correct: While running down the street, Lauren had a trash can in her way.**
- Finally, we have Lauren, the subject, being modified and the modifier next to the subject.

8.1 SAT Worksheet: SAT Writing Multiple Choice Practice with Modifiers

Directions: Underline the modifier and then circle what the modifier is modifying. If the modifier is not next to what it is modifying, re-write the sentence so that the modifier is next to what it is modifying.

1. Since he is a gentleman, Adam is always willing to help others.
2. Having come down lightly throughout the morning, Sarah thought that she would be able to move her car through the snow.
3. Full of lights, we were impressed with the holiday tree.

9 Parallelism

Clauses within a sentence must have the same phrasing (parts of speech or verb tenses). This frequently happens to items in a list. Parallelism can also apply to the paragraph improvement section where consecutive sentences have similar structure.

For example,

1. Emily likes soccer, hockey, and going to parties. What is wrong with this sentence?

   Write a correct version of the sentence:

   ---

2. When at college, Emily likes to go to soccer games, football games, and play frisbee. What is wrong with this sentence?

   Write a correct version of the sentence:

   ---

3. Kelly likes to go to the mall, but riding on the mall's elevators scares her. What is incorrect about this sentence?

   Write a correct version of the sentence:

   ---

10 Faulty Comparisons

Items being compared must have the same identity. For example, a dog can not be compared to another dog's toys. While this might sound easy, it isn't always easy because our brain is used to making the correct comparison even if it is written incorrectly on the page.
For example,

1. Spot is better than Ziggy's toys.

   - The sentence is trying to compare Spot and Ziggy or Spot's toys and Ziggy's toys.
   - The sentence is actually comparing Spot and Ziggy's toys.
   - This sentence can be corrected at least two different ways. Spot's toys are better than Ziggy's toys. OR Spot's toys are better than Ziggy's.

2. Paul's pet rock is larger than Jim.

   - What two things is the sentence trying to compare? _____
   - What two things is the sentence actually comparing? _____
   - Re-write the sentence so that it is grammatically correct (Note: there are at least two ways to do this.): _____

11 Word Choice

The errors can be wrong words. These can be in the form of

- idioms. For example, _____
- commonly misspelled words. For example, _____
- commonly confused words. For example, _____
- incorrect word choice. For example, _____

12 Other Common Errors

The following is a list of other common errors that you will discuss as a class. Then, circle and correct the error:

- Adverbs vs. Adjectives: _She worked diligent to ensure that the assignment was completed in a timely manner.
- Comparatives vs. Superlatives: _____
- Sentence Fragments: _____
- Redundancy: _____
- Run-ons: _____
- Passive Voice: _____

11

Sentence Improvements

1 SAT Worksheet: Warm-Up

Are you having trouble remembering what types of errors are tested in the SAT Writing section? Try this mnemonic device:
The most commonly tested and missed grammar points can be seen below. When you are answers sentence error or improvement questions, BE A CYCLOPS and always be keep one eye open for these most commonly missed grammar points. If you have already heard the BE A CYCLOPS mnemonic from another section, close your eyes and identify the grammar point that each letter refers to. Then, complete the exercise on the next page.

B is for "being": The word "being" is commonly heard in speech but does not usually make for the best sentences.

E is for agrEEmEnt: Identify the subject and the verb that is associated with the subject. The verb needs to match the subject in number and gender. This means that the subject and the main verb need to be both singular or both plural.

A is for awful verb tense: Check when the action is happening and then if the given verb tense can be used to describe the time period that the action is happening.

C is for clause (aka commas towards the beginning of the sentence): Clauses at the beginning of sentences have a description, then a comma, then more words. The description must be describing the first word after the comma.

Y is for you, me, and other pronouns: If "you" is not in the underlined section, then it must be paired with "you" in the underlined section. If "one" or "someone" is not in the underlined section, then it must be paired with you in the underlined section. Also, make sure that pronouns like "it" or "they" clearly refer to the subject of the sentence.

C if for contrasts and other conjunction/connectors: Words like "and" are used to add another idea, however, words like "but" are used to show differences between things.

L is for list: If there is a list, all of the words must be the same part of speech and the same verb tense.

O is for "of" and commas that might separate the subject and the verb: The verb ending is dependent on the singularity or plurality of the subject.

P is for preposition: Make sure the preposition matches the word before it. To combat this, learn your idioms!

S is for short: Is the sentence as short as it can be without changing the meaning?

Directions: Write 5 sentence error questions from any five different categories in the list above. At least one should have no error. Then, switch with someone in the class so that they can solve your questions.

1.

2.

3.

4.

5.

2 Identify the Error or Errors in the Original Sentence

If you can identify the error or errors in the original sentence before looking at the answer choicaes. This can help you identify if there is an error and if so, to determine which changes need to be made in the correct answer choice.
For example, try to identify the error in the following sentences:
It is extremely advantageous if you can identify the error or errors in the original sentence before looking at the answer choices and then think of possible corrections. These can help you to 1) Eliminate answer choice "A" as the best sentence and 2) eliminate incorrect answer choices with the same error as the original sentence quickly.

Directions: Determine if the sentences below have an error in the underlined region and, if so, circle it. Write the type of error on the first line and a sample correction on the second line. If you don't that there is an error, write "No error" as the error type and move to the next sentence. The first question has been done for you.

1. The Boston Common is older than it but still just as well-maintained as Central Park.

   Type of error(s): unclear pronoun, not concise
   Sample correction: older than but still just as well-maintained as Central Park.

2. While most people detest high prices for food items, but organic food sells well despite the increased cost.

   Type of error(s): _____
   Sample correction: _____

3. With determination and dilligence, anyone can achieve a high score on the SAT test.

   Type of error(s): _____
   Sample correction: _____

4. The movie featured many well-respected actors and was winning many awards for acting, directing, producing, and writing.

   Type of error(s): _____
   Sample correction: _____

5. Many educators believe that technology of the sort that helps monitor student progress and deliever feedback to parents could be helpful in increasing test performance.

   Type of error(s): _____
   Sample correction: _____

6. After waiting an hour for her friend, the woman finally arrived in the theater donning a red dress.

   Type of error(s): _____
   Sample correction: _____

7. Overjoyed that he was accepted his first choice college, Stephen is currently being slightly ridiculous.

   Type of error(s): _____
   Sample correction: _____

8. Many people think that Americans take the right to vote for granted, and I think that it is the right of Americans to not exercise their right to vote.

   Type of error(s): _____
   Sample correction: _____

9. The bank robbers threatened the tellers by waving their guns, one of the criminals held a teller hostage until the police arrived.

   Type of error(s): _____
   Sample correction: _____

10. After a major political event such as September 11th, the president will address the nation, with his purpose being to inform and comfort the public.

    Type of error(s): _____
    Sample correction: _____

11. Mary's secret, the whereabouts of the items that had been missing for weeks, were more compelling than Jeff's.

    Type of error(s): _____
    Sample correction: _____

3 Incorrect Answers

On sentence improvements, the correct answer will be grammatically correct. Therefore, before you see if an answer choice makes sense in the original sentence, determine if it is grammatically correct. If not, then you can eliminate this right away.

Directions: Eliminate the answer choices that are grammatically incorrect for the following sentences. After you have elimintated an answer choice, write why it was incorrect on the line. The first one has been done for you.

1. The Boston Common is older than it but still just as well-maintained as Central Park.

   (A) older than it but still just as well-maintained as Central Park **Eliminate because of ambiguous pronoun**

   (B) older than Central Park but just as well-maintained. _____

   (C) older than Central Park; it is just as well-maintained. **Eliminate because of ambiguous pronoun**

   (D) older and it is just as well-maintained as Central Park. _____

   (E) just as comfortable as Central Park and it is older than it. **Eliminate because of ambiguous pronoun**

   We now have two grammatically correct statements. Leave those alone– we will choose the correct answer choice as part of the next exercise.

2. While most people detest high prices for food items, but organic food sells well despite the increased cost.

   (A) _____

   (B) _____

   (C) _____

   (D) _____

   (E) _____

3. With determination and diligence, anyone can achieve a high score on the SAT test.

   (A) _____

   (B) _____

(C) _____

(D) _____

(E) _____

4. The movie featured many well-respected actors and was winning many awards for acting, directing, producing, and writing.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

5. Many educators believe that technology of the sort that helps monitor student progress and deliever feedback to parents could be helpful in increasing test performance.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

6. After waiting an hour for her friend, the woman finally arrived in the theater donning a red dress.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

7. Overjoyed that he was accepted his first choice college, Stephen is currently being slightly ridiculous.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

8. Many people think that Americans take the right to vote for granted, and I think that it is the right of Americans to not exercise their right to vote.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

9. The bank robbers threatened the tellers by waving their guns, one of the criminals held a teller hostage until the police arrived.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

10. After a major political event such as September 11th, the president will address the nation, with his purpose being to inform and comfort the public.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

11. Mary's secret, the whereabouts of the items that had been missing for weeks, were more compelling than Jeff's.

(A) _____

(B) _____

(C) _____

(D) _____

(E) _____

4 Picking the Most Clear and Concise Sentence

In SAT sentence improvement problems, you should try to eliminate the 2-3 answer choices that are grammatically incorrect so that you are left with 2-3 other answer choices. The SAT sentence improvement section is looking for the "best" sentence, one that is concise and precise. In SAT world, this translates to the sentence that is not only grammatically correct AND concise. How does the SAT measure "conciseness"? By length.
Therefore, the answer choice that you are looking for is grammatically correct and short without changing the meaning of the original sentence. The latter part means that it can not be so short that it is missing a key part of the original sentence, but this is not usually an issue on sentence improvement problems.
Directions: Go back to the previous exercise and look at the answer choices that you haven't yet eliminated. Find the shortest answer. Then, check if it preserves the original meaning of the sentence by reading this answer choice in place of the underlined part of the original sentence. If so, this answer choice is the correct answer, so you should mark it. The first sentence is done as an example.

1. The Boston Common is older than it but still just as well-maintained as Central Park.

   (A) older than it but still just as well-maintained as Central Park Eliminate because of ambiguous pronoun

   (B) older than Central Park but just as well-maintained. **Correct. It is grammatically correct and the most concise.**

   (C) older than Central Park; it is just as well-maintained. Eliminate because of ambiguous pronoun

   (D) older and it is just as well-maintained as Central Park. **Grammatically correct but not as concise as (B).**

   (E) just as comfortable as Central Park and it is older than it. Eliminate because of ambiguous pronoun

5 Sentence Improvements

Directions: The following sentences test correctness and effectiveness of expression. Part of each sentence or the entire sentence is underline; beneath each sentence are five ways of phrasing the underlined material. Choice A repeats the original phrasing; the other four choices are different. Select the choice that completes the sentence most effectively.
In making your selection, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, sentence construction, and punctuation. Your selection should result in the most effective sentence– clear and precise, without awkwardness or amiguity. ***After you have selected the correct answer choice, you need to mark why the other four answer choices are incorrect, just like in strategies 1-3.***

1. When asked why she became a journalist, the woman responded that she wanted to help tell peoples stories and loved to be on camera.

   (A) _____

   (B) _____

   (C) _____

   (D) _____

   (E) _____

12

Four Strategies to Beat Paragraph Improvements

1 SAT Worksheet: Warm-Up

Directions: Complete the following sentence improvement questions using the strategies taught in the previous chapter.

The SAT writing section always includes 6 questions dealing with paragraph improvement. Here's the general strategy for approaching paragraph improvement questions:

2 Skim the Passage

The writing section is less about comprehension and more about grammar and sentence relationships. With practice, it'll be easy to deduce a lot of answers without reading the full passage. In fact, answering questions as you go along will often give you the enough context to answer other ones.

Unlike the other parts of the writing section, these questions dont ascend in difficulty as you go. Because some of the easier questions may be placed at the end, its important that you get to as many questions as possible.

3 Determine the Type of Question You're Being Asked

There are three main types of paragraph improvement questions:

1. **Grammar Revision**

   These typically ask you for the best version of an underlined portion.

   - For example: Which is the best version of the underlined portion of sentence 2 (reproduced below)?
   - The most common grammar errors that show in paragraph improvement are: run-on sentences, pronoun reference, misplaced modifiers, and subject-verb agreement.

2. **Combination/Insertion**

   These questions require you to choose the best way to insert or combine certain words and sentences. They test your understanding of sentence relationships. There are many ways one sentence can relate to the next. For example, one expresses a different view than the other, one summarizes the other, one supports the other, and one presents a specific case of the other.

   Your job is to figure out the relationship and choose the answer that best expresses that relationship.

   - TIP: Pay attention to leading phrases separated by commas. Not only are they the most frequence place for transitions but they will also tell you the most about how one sentence relates to the previous one.

3. **Paragraph Relationship**

   - For example, *Which of the following would be the best sentence to introduce the third paragraph?*

     (A) ...
     (B) ...
     (C) ...
     (D) ...
     (E) ...

4 Read the Lines Relevant to the Question

Once you've determined the question type, you may need to read some lines in the passage for context. The relevant lines will typically be either a sentence or two above or below the target sentence. Sometimes, it will be necessary for you to read the entire paragraph.

5 Develop Your Own Answer Before Looking at the Answer Choices

Making this a habit will not only promote clear thinking but also insulate you from being swayed by tempting but incorrect answer choices.

6 SAT Worksheet: Paragraph Improvement Practice

Directions: Reading the following essay and complete the questions that follow:

(1) For Korean military brides during the Korean War, Korean food was part of their iden- tities. (2) Korean food wasnt just food, the fact being that it was a symbol of home. (3) Even when the military brides ate Korean food in America, it wasnt the same as eating food in Korea. (4) The immigrants had to find ways of working Korean cooking into an American lifestyle.

(5) Later, Korean food became more available. (6) Military brides were forced to make American cooking their priority. (7) The struggle to maintain their identity was a daily one. (8) Korean immigrant wives had to deal with the suppression of their ethnic identities from their American counterparts. (9) Uninterested in preserving the cultural identity of their wives, American food was insisted on by the husbands.

(10) The secondary status of Korean food, according to what we know of the past, signified the low social position of Korean culture in relation to American culture. (11) The search for food represented a longing for home and also it served as a reminder of social inferiority.

1. Which of the following is the best revision of the underlined portion of sentence 2 (reproduced below)?

   Korean food wasnt just food, the fact being that it was a symbol of home.

   (A) Korean food wasnt just food, moreover, it was a symbol of home.

   (B) Being a symbol of home, Korean food wasnt just food.

   (C) Korean food wasnt just food; it was a symbol of home.

   (D) The fact that it was a symbol of home meant that Korean food wasnt just food.

   (E) Being a symbol of home made Korean food more than just food.

2. Where is the best place to insert the following sentence?

   They used substitute ingredients to cook imitations and dined with other military brides.

   (A) After sentence 2

   (B) After sentence 3

   (C) After sentence 4

   (D) After sentence 5

   (E) After sentence 6

3. Which of the following is the best way to revise and combine sentences 5 and 6 (reproduced below)?

   Later, Korean food became more available. Military brides were forced to make American cooking their priority.

(A) Korean food became more available, however, military brides were forced to make American cooking their priority.

(B) Although it became more available, military brides were forced to make American cooking their priority.

(C) Having Korean food become more available, military brides were forced to make American cooking their priority.

(D) Even as Korean food became more available, military brides were forced to make American cooking their priority.

(E) Forced to make American cooking their priority, Korean food became more available.

4. Of the following, which is the best way to phrase sentence 9 (reproduced below)?

Uninterested in preserving the cultural identity of their wives, American food was insisted on by the husbands.

(A) (as it is now)

(B) Uninterested in preserving the cultural identity of their wives, the husbands insisted on American food.

(C) Because they were uninterested in preserving the cultural identity of their wives, the husbands insisted on American food.

(D) Insisting on American food, the husbands are uninterested in preserving the cultural identity of their wives.

(E) American food was insisted on by the husbands because they were uninterested in preserving the cultural identity of their wives.

5. Which revision appropriately shortens sentence 10 (reproduced below)?

The secondary status of Korean food, according to what we know of the past, signified the low social position of Korean culture in relation to American culture.

(A) Delete of Korean culture.

(B) Delete in relation to American culture.

(C) Delete Korean food.

(D) Delete , according to what we know of the past,.

(E) Delete the low social position of.

6. Which of the following is the best revision of sentence 11 (reproduced below)?

The search for food represented a longing for home and also it served as a reminder of social inferiority.

(A) The search for food represented a longing for home and also a reminder of social inferiority.

(B) The search for food not only represented a longing for home but also served as a reminder of social inferiority.

(C) Representing a longing for home, it also served as a reminder of social inferiority.

(D) The search for food represented a longing for home, it nevertheless served as a reminder of social inferiority.

(E) The search for food represented a longing for home and serving as a reminder of social inferiority.

13

Six Strategies for a Perfect Six Essay and Practice

1 SAT Worksheet: Warm-Up

Directions: Complete the following paragraph improvement problem set.

2 Strategy #1: Know the Right Structure

Directions: Fill in the correct structure of a top-scoring essay as you discuss the information in class.

1. **Paragraph 1:** _____
   - 1-2 sentences of _____
   - 1 sentence of _____
   - 1 sentence for the _____
2. **Paragraph 2:** _____
   - The first sentence _____
   - 1 sentence to _____
   - 2-3 sentences of analysis a.k.a. _____
3. **Paragraph 3:** _____
   - Transition to the next paragraph by _____
   - 1 sentence to _____
   - 2-3 sentences of _____
4. **Paragraph 4:** _____
   - _____ to the next paragraph
   - 1 sentence to _____
   - 2-3 sentences of _____
5. **Paragraph 5:** _____
   - _____ to the next paragraph and _____
   - 1 sentence to _____
   - 2-3 sentences of _____

3 Strategy #2: Present a Clear Thesis

What are the elements of a clear thesis?

- _____
- _____
- _____

3.1 SAT Worksheet: Practice Writing Thesis Statements

Directions: Read the following essay prompts and write a clear thesis statement for an essay.

1. *"Happiness can only exist in acceptance." -George Orwell*

   Assignment: Is it better to accept and be happy with what you have, or to always seek greater sources of happiness? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

   - Thesis taking one point of view on this issue: _____

     _____

   - Thesis taking a different viewpoint: _____

     _____

2. *"None are more hopelessly enslaved than those who falsely believe they are free." -Johann Wolfgang von Goethe*

   Assignment: In extolling the virtues of our freedom in schools, do we solidify freedom as a value to be protected, so do we teach children to be complacent about freedoms lost? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

   - Thesis taking one point of view on this issue: _____

     _____

   - Thesis taking a different viewpoint: _____

     _____

3. *"Beware the barrenness of a busy life." -Socrates.*
   "A man who dares to waste one hour of time has not discovered the value of life." -Charles Darwin

   Assignment: To get the most out of your short time on earth, is it better to fill your days new and exciting experiences, or to slow down and appreciate the present before it passes? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

   - Thesis taking one point of view on this issue: _____

     _____

   - Thesis taking a different viewpoint: _____

     _____

4 Strategy #3: Use 1 Specific Example in Each Body Paragraph

The SAT wants you to use examples from your reading, studies, experience, or observations. The SATs want students to focus on one example per body paragraph. It should be introduced in _____ the and explained in a general sense in _____. The rest of the paragraph should focus on explaining how this example supports your thesis.
Directions: Fill in the following examples below. Note, these should be appropriate to write about on an SAT essay:

- Examples of readings you've done: _____
- Examples of topics you've studied: _____
- Examples of experiences you've had: _____
- Examples of observations you've made: _____

4.1 SAT Worksheet: Practice Writing Specific Examples

Directions: For each of the two essay prompts from the above worksheet, pick one of the theses that you wrote to prepare examples for.

1. **Assignment:** Is it better to accept and be happy with what you have, or to always seek greater sources of happiness? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.
   - Which thesis did you select? _____
   - **Example 1: Describe your example.** _____
   - **Describe how your example supports your thesis.** _____

- **Example 2: Describe your example.** _____

_____

- **Describe how your example supports your thesis.** _____

_____

- **Example 3: Describe your example.** _____

_____

- **Describe how your example supports your thesis.** _____

_____

2. **Assignment:** In extolling the virtues of our freedom in schools, do we solidify freedom as a value to be protected, so do we teach children to be complacent about freedoms lost? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

- Which thesis did you select? _____
- **Example 1: Describe your example.** _____

_____

- **Describe how your example supports your thesis.** _____

_____

- **Example 2: Describe your example.** _____

_____

- **Describe how your example supports your thesis.** _____

_____

- **Example 3: Describe your example.** _____

_____

- **Describe how your example supports your thesis.** _____

_____

5 Strategy #4: Write a Clear, Two-Part Conclusion

Conclusions consist of two parts, **re-stating the thesis** and **extending the argument.** The extension is where you can demonstrate why your argument is important in a wider context than just your essay and consider the implications of the argument. For example, this can be suggestions of reasons or situations where people should consider your argument thoughtfully.

Samples of language for the extension in the conclusion may include:

- Based on this argument, society should consider ...
- This argument suggestions that when ... occurs ...
- Without considering this perspective, it is possible that ...

5.1 SAT Worksheet: Practice Writing Conclusions

Directions: For the theses and examples that you wrote in each of the two essay prompts in the above worksheet, write a conclusion for each thesis and set of examples.

1. **Assignment:** Is it better to accept and be happy with what you have, or to always seek greater sources of happiness? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

2. **Assignment:** In extolling the virtues of our freedom in schools, do we solidify freedom as a value to be protected, so do we teach children to be complacent about freedoms lost? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

6 Strategy #5: Use Transitions Between Paragraphs

Transitions are important because they allow for more flow within and between paragraphs.

1. Examples of transitions to be used between the introduction and rst body paragraph:

2. Examples of transitions to be used between body paragraphs:

3. Examples of transitions to be used between the last body paragraph and the conclusion:

4. Examples of transitions to be used between sentences to show similarity:

5. Examples of transitions to be used between sentences to show contrast:

6. Examples of transitions to be used between sentences to show cause and effect:

7 Use Formal Language and Proper Grammar

Even though you only have 25 minutes to write the SAT essay, you should still do your best to use formal language and proper grammar.
Informal words that should not be used on the SAT include:

1. thing
2. like
3. stuff
4. a lot
5. excessive cliches

Grammar errors frequently seen on SAT essays include:

1. incorrect or inconsistent verb tense
2. using the pronoun "we" without defining the antecedent
3. using fragments instead of real sentences

7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes

Correct the following sentences so that they each use formal language and are free of grammatical mistakes.

1. We were thinking that we would bring a lot of stuff to the picnic, but we ended up only having a few things.

   Errors: _____

   Fix It: _____

   _____

2. Although she is at school in 1931, it is clear from the context that she was unhappy.

   Errors: _____

   Fix It: _____

   _____

3. This argument is important, as it suggests to us that we should always do our best on any assignment and conduct ourselves with integrity.

   Errors: _____

   Fix It: _____

   _____

4. It was clear that he was trying to kill two birds with one stone.

   Errors: _____

   Fix It: _____

   _____

5. Paul wasn't sure what he was going to see when he rolled up to the party.

   Errors: _____

   Fix It: _____

   _____

8 SAT Essay Practice

Directions: Think carefully about the issue presented in the following excerpt and the assignment below. You will have 25 minutes to craft an essay response to the prompt.

Prompt 1: *"No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable." -Adam Smith*

Assignment: Should we judge our society based on the opportunities it provides its members, or on the conditions of those who achieve the least? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

Prompt 2: *"I am not afraid of an army of lions led by a sheep. I am afraid of an army of sheep led by a lion." -Alexander the Great*

Assignment: What is more important to the effectiveness of a group, the qualities of its leaders or the characteristics of its members? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

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Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary

1 SAT Worksheet: Warm-Up

Directions: Brainstorm and begin writing a response to the following SAT Essay prompt.
"Beware the barrenness of a busy life." -Socrates.
"A man who dares to waste one hour of time has not discovered the value of life." -Charles Darwin

Assignment: To get the most out of your short time on earth, is it better to fill your days new and exciting experiences, or to slow down and appreciate the present before it passes? Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

2 SAT Vocabulary

It's true that you can't learn every single word on the SATs. However, there are certain words (or groups of words) that you should know and other words that you can use strategies, such as using roots or connotations, to figure out.

3 Words to Know

Frequently-tested SAT vocabulary is found at the end of this book and should be studied over time.
What are some ways that you can study a list of vocabulary words?

-
-
-

4 Groups of Words

Vocabulary words can be grouped based on definition. For example, the words "reticent" and "taciturn" both mean reserved. It can be easier to learn these groups rather than individual words.

5 SATWorksheet: Practice with Grouping Vocabulary Words

Directions: Use a thesaurus to find sophistocated vocabulary words with the meanings given below. The words that are already filled out for you are words that frequently appear on the SATs.

1. **Words that mean "reserved"**
   - reticent
   - taciturn
   -
   -
   -
2. **Words that mean "careful" or "critical"**
   - discriminating
   -
   -
   -
   -
3. **Words that mean "puzzling" or "mysterious"**
   - enigmatic
   -
   -
   -
   -
4. **Words that mean "bitter" or "sharpl"**
   - caustic

-
-
-
-

5. **Words that mean "highly productive"**

   - prolific
   -
   -
   -
   -

6. **Words that mean "generous" or "noble"**

   - magnanimous
   -
   -
   -
   -

7. **Words that mean "peaceful" or "committed to peace"**

   -
   -
   -
   -
   -

8. **Create your own: Words that mean "_____"**

   -

-
-
-
-

6 Prefixes, Suffixes, and Roots to Know

Knowing prefixes, suffixes, and roots can help you to figure out unfamiliar words in the sentence completion answer choices or in passages on the SAT Verbal passages. For example, "cred-" means "to believe", so something that is "credible" is able to be believed. In some cases, you may be able to combine two or more of these to get the definition.

7 SAT Worksheet: Practice Determining SAT Words using Prefixes, Suffixes, and Roots

Directions: Below is a list of roots and their definitions. Answer the question about the word that follows.

1. Acer-, acid-, acri- means sharp. Based on this definition, if someone described a drink to you as "acrid", would you drink it? Why or why not? ___
2. Ag-, agi-, ig-, act- means do, move, or go. What will someone who is a poor navigator have trouble with? _____
3. Arch means chief, first, rule means. Do you think that American society is patriarchal or matriarchal? _____
4. Belli- means war. In what situation might someone be belligerent? _____
5. Carp-, cip-, cept means to take. How might this help you to figure out the definition of the word "inception"? _____
6. Cred- means to _____. Name some credible news sources. _____
7. Dict- means to say or speak. What do you think that the word "benediction" means? _____(Hint: do you think that the prefix "bene-" refers to something good or something bad? _____
8. Duc-, duct- means to lead or to pull. If someone abducts someone else, what did they do? _____
9. Fac-, fact-, fic-, fect- means to do or make. What is currently not feasible without modern technology? _____
10. Fall-, fals- means to deceive. If someone is described as fallacious, would you want to be friends with them? _____
11. Fid-, fide-, feder- means faith or trust. If someone confides in you, what do they do? _____
12. Grad-, gress- means to bring together, to step or to go. How do you measure progress in your SAT class? _____

13. Greg- means herd. Where might a congregation of people meet? _____

14. Homo- means same whereas hetero- means different. What do you think that the word "homophone" means? ___(Hint: What do you think "phon-" means? _____

15. Jac-, Ject- means insert. What do you think is the goal of a projectile weapon?

16. Loqu-, locut- means to talk or to speak. Who is the most loquacious person in your class? _____

17. Magn- means great. Name a magnate in the technology industry. _____

18. Migra- means wander. How might you identify if a bird is migratory over a long period of time? _____

19. Neo- means new. Who do you know that has recently given birth to a neonate?

20. Oligo- means few or little. Do you think America is a democracy or an oligarchy? Why? _____

21. Pel-, puls- means drive or urge. What is a food that repulses you? _____

22. Pon-, pos-, pound- means place or put. What do you think that postulate means? _____

23. Reg- or recti- means straighten. What is another word to describe someone that is "regimented"? _____

24. Sacr-, sanc-, secr- means sacred. What do you think that the word sacrosanct means? _____

25. Sec-, sect- means to cut. How might you section a pizza? _____

26. Sed-, sess-, sid means sit. What do you think that subsidiary means? _____

8 Connotations

Connotations, the emotion attached to a word, can also be helpful in figuring out what type of word that you want to filll in the blank if you are having a hard time figuring out the definition of the word. Words can have negative, positive, or neutral connotations. For example, the word quack has a negative connotation, whereas the word doctor has a positive connotation.

But how can you use this on the SATs? If you know that the blank has a negative connotation, that means that you are looking for an _____ answer choice with a connotation and can eliminate all of the words that have a _____ connotation.

9 SAT Worksheet: Determine the connotation of unfamiliar words

Directions: Write whether each of the following words are positive, negative, or neutral.

1. accusation _____
2. accost _____
3. acetic _____
4. acme _____
5. analogous _____
6. baleful _____
7. conflagration _____
8. dissonanc _____
9. enmity _____
10. fastidious _____
11. genteel _____
12. hybrid _____
13. ignoble _____
14. jocose _____
15. litigious _____
16. mollify _____
17. noisome _____
18. obstinate _____
19. permissible _____

20. quiescence _____

21. regress _____

22. somber _____

23. travail _____

24. underrate _____

25. valorous _____

26. whimsical _____

27. zenith _____

10 SAT Worksheet: Practice with Unfamiliar Words

Directions: Write your best guess for the definitions of each of the following words or where you might have heard it before. If you have no idea, then write what you think the connotation of the word is.

1. (A) billowing _____
   (B) labyrinth _____
   (C) credible _____
   (D) abrogate _____
   (E) tangible _____

2. (A) reprehensible _____
   (B) penguin _____
   (C) fabricated _____
   (D) rancorous _____
   (E) enigmatic _____

3. (A) consecrations _____
   (B) enigmas _____
   (C) fabrications _____
   (D) accolades _____
   (E) amalgamations _____

4. (A) acquiesced _____
   (B) mimicked _____
   (C) consecrated _____
   (D) curtailed _____
   (E) plummeted _____

11 SAT Worksheet: Sentence Completion Strategies Practice

Directions: Read the following sentence completion questions and write your own word for what you think should go in the blank as well as the connotation of the word that should go in the par- ticular blank.

1. Johns story about the alien abduction was not seen as by _____ his friends; everyone thought he was lying.
2. The _____ act was denounced by everyone who heard about it.
3. Emma received _____ for her heroic act.
4. Rebecca _____ to her bosss demands, as it was easier to comply than to argue.
5. As a result of his disdain for the political climate, Rich decided to _____ from voting in the presidential election.
6. The _____ gasses forced the building to be evacuated.
7. Do not _____ the your meaning with a _____ of fancy words. Rather, speak clearly and simply.
8. The _____ child believed even the most absurd _____
9. The _____ proposal would not be adopted until is could be shown to not have _____ side effects.

12 SAT Worksheet: Practice with 1-Blank Sentence Completion Questions

Directions: Combine your knowledge from this lesson to complete the sentence completions below. After you finish the question, briefly describe the strategies and processes that you used to complete the problem.

1. Johns story about the alien abduction was not seen as by _____ his friends; everyone thought he was lying.

   (A) billowing
   (B) labyrinth
   (C) credible
   (D) abrogate
   (E) tangible

   Strategies used: _____**How I solved the problem:** _____

2. The _____ act was denounced by everyone who heard about it.

   (A) reprehensible
   (B) penguin
   (C) fabricated
   (D) rancorous
   (E) enigmatic

   Strategies used: _____**How I solved the problem:** _____

3. Emma received _____ for her heroic act.

   (A) consecrations
   (B) enigmas
   (C) fabrications

(D) accolades

(E) amalgamations

Strategies used: _____ **How I solved the problem:** _____

4. Rebecca _____ to her bosss demands, as it was easier to comply than to argue.

(A) acquiesced l

(B) mimicked

(C) consecrated

(D) curtailed

(E) plummeted

Strategies used: _____ **How I solved the problem:** _____

5. As a result of his disdain for the political climate, Rich decided to _____ from voting in the presidential election.

(A) recite

(B) obfuscate

(C) abstain

(D) destroy

(E) initiate

Strategies used: _____ **How I solved the problem:** _____

6. The _____ gasses forced the building to be evacuated.

(A) noxious

(B) rancorous

(C) vicarious

(D) enigmatic

(E) indiscriminate

Strategies used: _____ **How I solved the problem:** _____

12.1 SAT Worksheet: Practice with 2-Blank Sentence Completion Questions

Strategy for 2-Blank Sentence Completions When you see a sentence completion question with two blank spaces, you will be asked to idenitify the combination of words in the answer choice that is appropriate for both blanks. While this usually looks more intimidating than the 1-blank questions, they are frequently easier than the 1-blank questions because incorrect answer choices are easier to eliminate.

Ff you are looking through the answer choices but the other doesn't, then this is **not** the correct answer choice and you should **cross out the entire answer choice**. In this manner, you can often eliminate incorrect answer choices by eliminating the first word or the second word. If you don't know what the first word in the answer choice, see if the second word makes sense or vice versa.

Directions: Complete the following example as a class. Cross out the answer choices in which one or both of the words do not make sense in the sentence.

Do not _____ the your meaning with a _____ of fancy words. Rather, speak clearly and simply.

(A) intimidate . . . debacle

(B) synthesize . . . colossus

(C) temper . . . harangue

(D) obfuscate . . . plethora

(E) abrogate . . . laceration

How I solved the problem: _____

Directions: Complete the following 2-blank sentence completions individually or with a partner. Cross out the answer choices in which one or both of the words do not make sense in the sentence.

1. The _____ child believed even the most absurd _____

   (A) persnickety . . . perfidy

(B) virulent . . . quandary

(C) complacent . . . quarry

(D) credulous . . . drivel

(E) tawdry . . . tedium

How I solved the problem: _____

_____

2. The _____ proposal would not be adopted until is could be shown to not have _____ side effects.

(A) tentative . . . detrimental

(B) assiduous . . . undetermined

(C) palliative . . . unctuous

(D) caucus . . . analgesic

(E) sanguine . . . inadvertent

How I solved the problem: _____

_____

13 Vocabulary-in-Context Practice for Reading Comprehension

In addition to sentence completion questions, the reading comprehension sections on the SATs also have passage-based reading questions. Understanding vocabulary in context can help with these passage-based reading sections for several reasons.

1. **It will help you understand the passages better**- Besides Sentence Completions, the Critical Reading section of the SATs is composed of passage-based reading questions. The passages can range from about 100 to 850 words. They are drawn from a wide range of sources, including natural sciences, literary fiction, and social studies. Critical Reading questions test your understanding of the written word and your ability to read carefully and analytically. They also test your vocabulary. Some questions are based on a single passage, while other questions ask you to compare and contrast two related questions, usually based around the same topic or theme.

2. **It will help you to solve passage-based reading questions more accurately**

   The types of reading questions are as follows:

   - Main ideaprimary purposetitle
   - Details
   - Style
   - Vocabulary in context
   - Inferencesdrawing conclusions
   - Tone

   In this lesson, we will focus on Vocabulary in context questions.

3. **Discern complex answer choices**- Answer choices will sometimes contain difficult vocabulary words or complex structures

13.1 SAT Worksheet: Vocabulary-in-Context Practice for Reading Comprehension

Use the strategies practiced above to determine the definition of the bolded word. Show your work on the line underneath the passage. Remember to look at the sentence in context of the passage and define the word ***in the context of the passage*** *as this will often utilize a word's secondary definition.*

1. The following is a passage from "The Story of the Crusades" by E. M. Wilmot-Buxton.

   While Southern Europe was thus being stirred to enthusiasm by being brought into personal contact with one who had seen for himself the woes of the Holy Land, Pope Urban had already called a council to consider the matter in a practical form. At this Council of Placentia, however, the chief part of the attention of those present was drawn to the representations of the Greek Emperor, on whose behalf ambassadors pleaded the cause of the city of Constantinople. If that city fell before the threatened **onslaught** of the Turks, they said, Christianity must perish for ever in the East, and nothing but a narrow stretch of sea kept the Moslems from the gates of the capital city of the Eastern Empire.

   At these words the deepest sympathy was expressed, but it was suggested that the best way of succouring the threatened city was to draw off the attention of the Turks by an attack upon Palestine itself. This was just what Urban desired. A definite march upon Jerusalem would **fire** the imaginations of men of all ranks far more than an attempt to defend Constantinople before it was actually besieged. The old jealousy between the Eastern and Western Empire had to be reckoned with; and the Emperor Alexios was no heroic figure to stand for the Cause of Christ. The whole question, was, therefore, deferred until the autumn of 1095, when a Council was summoned at Clermont in France.

   That dull November day witnessed a most striking scene. The vast open square in front of the Cathedral was crammed with people of all classes drawn from all quarters by the rumour that the subject of a Crusade would

be discussed. From the great western door, immediately after High Mass, emerged the figure of the Pope, and a number of bishops and cardinals, dressed in vestments glowing with colour, followed him upon the high **scaffold** covered with red cloth.

Definition of "onslaught": _____Context clues: _____

Definition of "fire": _____

_____

Definition of "scaffold": _____

_____

From http://www.gutenberg.org/ebooks/47780.

2. The following scene takes place at a private school.

   The door of Mrs. Boyds room stood partly open. Louie Howe gave a light tap and marched in with an air that was rather **insolent.**

   "Oh, Mrs. Boyd, Ive given my walking dress such an awful tear! Mrs. Barrington said she was quite sure you could mend it. You see Im going to a sort of musicale in about an hour and I couldnt take it to the tailors. Its my best suit, too, andit must be done very neatly."

   Mrs. Boyd examined it. "Yes, its pretty bad, Ive done worse though, and part of it will be under the plait. Let me see if I have the right color."

   She opened a box of spools and took up several colors to match.

   "Oh, yes, here is one," and she gave a smile of gratification.

   Louie dropped into a chair. Was she going to wait? Lilian wondered.

   "What a pleasant room this is, Mrs. Boyd! But all the rooms are just cozy and nice. Of course Mrs. Barrington can afford to keep it in a lovely fashion for her prices are high and she doesnt care to take any scholars only from the best families. I do wonder how that Nevins girl slipped in? Her father is a first-class banker, I have understood. They have a big house in New York and a summer house at Elberon, and their New York house is rented out for seven thousand dollars; but isnt she a terror? How do you stand her, Miss Boyd?"

"She has had very little training. Her mother has been ill and seems very **indulgent**," answered Lilian quietly. "Yet she may make a very fair scholar."

"Its funny to hear her talk. Bragging, we call it. Do you suppose the stories are true?"

"Mrs. Barrington would know," was the cautious reply.

"Well, I suppose she must be satisfactory or she wouldnt be here. But theres common blood back of her somewhere. Money doesnt give you the prestige of good birth. That always showsdont you think so?" with a confident upward glance.

"I have not had experience enough with the world to judge," answered Lilian. "We lived in a factory town . . . ''

Definition of "insolvent": _____

_____

Definition of "indulgent": _____

_____

From: The Girls at Mount Morris, by Amanda Minnie Douglas. From https://www.gutenberg.org/files/24070/24070-h/24070-h.htm.

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Strategy #2 For Sentence Completions and Passage-Based Reading Questions: Determining Key Words

1 SAT Worksheet: Warm-Up

Use strategies learned last week to attempt to guess at the connotation and definition of the following SAT words:

1. anachronistic
2. deleterious
3. fortuitous
4. opulent
5. ostentatious
6. prosaic
7. querulous
8. rancorous
9. surreptitious

2 Determining Key Words In Sentence Completions

There are 4 types of sentence completion problems: definitional, contrast, cause and effect, and synonyms. Each type of sentence completion has its own key words. Here, we will introduce each type of sentence completion and also where the key words tend to be located.

1. **Definitional:**

   Types of Key Words:

   Examples of Key Words:

2. **Contrast:**

   Types of Key Words:

   Examples of Key Words:

3. **Cause and Effect:**

   Types of Key Words:

   Examples of Key Words:

4. **Synonyms:**

   Types of Key Words:

   Examples of Key Words:

2.1 SAT Worksheet: Practice with Key Words in Sentence Completions

Directions: Directions: For each sentence completion problem, label its type (definitional, etc.) and box the 1-2 key words in each sentence. Then, answer the questions using strategies presented in this and the previous.

3 Determining Key Phrases in the Passage

Some of the most difficult parts of the passage-based reading section is figuring out which words or sentences are important for understanding the passage and answering the passage-based reading questions correctly.
When you are reading a passage for the passage-based reading section, you should focus on identifying the main idea and important details rather than precisely what every single word in every single line of the passage means. This strategy works for the following reasons:

1. **Time Limits**- You have a very limited amount of time to read a lot of text and answer questions. It is difficult to understand every word or even every sentence of a text perfectly in the short time that the SATs gives you to read the passages.

2. **Active Reading Promotes Understanding**- Finding the main idea in each paragraph as well as for the entire passage helps you to engage with the passage.

3. **Answering Questions Accurately**- Understanding the passage as a whole will help you to answer the general questions in the passage-based reading (e.g. questions about the main idea of the passage) as well as eliminate incorrect answers from the questions that are more detail-oriented.

   Let's remind ourselves about the types of questions on the passage-based readings:

4. **You can (and should) refer back to the passage for detail questions**- When you are given a question about a specific detail from the passage, you will have to go back into the passage and read it again regardless of whether you understood it the first time or not.

Because of the usefulness of identifying the main idea, we will practice quickly reading and identifying the a) one main point in each paragraph and b) the main idea of the passage.

3.1 SAT Worksheet: Practice Identifying Main Ideas and Important Points

Directions: For each passage, underline the main point in each paragraph. After you have finished the passage, write the main idea of the passage.

1. What is Society?–Perhaps the great question which sociology seeks to answer is this question which we have put at the beginning. Just as biology seeks to answer the question "What is life?"; zoology, "What is an animal?"; botany, "What is a plant?"; so sociology seeks to answer the question "What is society?" or perhaps better, "What is association?" Just as biology, zoology, and botany cannot answer their questions until those sciences have reached their full and complete development, so also sociology cannot answer the question "What is society?" until it reaches its final development. Nevertheless, some conception or definition of society is necessary for the beginner, for in the scientific discussion of social problems we must know first of all what we are talking about. We must understand in a general way what society is, what sociology is, what the relations are between sociology and other sciences, before we can study the social problems of to-day from a sociological point of view.

What is the main idea of this paragraph?: _____

_____

The word "society" is used scientifically to designate the reciprocal relations between individuals. More exactly, and using the term in a concrete sense, a society is any group of individuals who have more or less conscious relations to each other. We say conscious relations because it is not necessary that these relations be specialized into industrial, political, or ecclesiastical relations. Society is constituted by the mental interaction of individuals and exists wherever two or three individuals have reciprocal conscious relations to each other. Dependence upon a common economic environment, or the mere contiguity in space is not sufficient to constitute a society. It is the interdependence in function on the mental side, the contact and overlapping of our inner selves, which makes possible that form of collective life which we call society. Plants and lowly types of organisms do

not constitute true societies, unless it can be shown that they have some degree of mentality. On the other hand, there is no reason for withholding the term "society" from many animal groups. These animal societies, however, are very different in many respects from human society, and are of interest to us only as certain of their forms throw light upon human society.

What is the main idea of this paragraph?: _____

We may dismiss with a word certain faulty conceptions of society. In some of the older sociological writings the word society is often used as nearly synonymous with the word nation. Now, a nation is a body of people politically organized into an independent government, and it is manifest that it is only one of many forms of human society. Another conception of society, which some have advocated, is that it is synonymous with the cultural group. That is, a society is any group of people that have a common civilization, or that are bearers of a certain type of culture. In this case Christendom, for example, would constitute a single society. Cultural groups no doubt are, again, one of the forms of human society, but only one among many. Both the cultural group and the nation are very imposing forms of society and hence have attracted the attention of social thinkers very often in the past to the neglect of the more humble forms. But it is evident that all forms of association are of equal interest to the sociologist, though, of course, this is not saying that all forms are of equal practical importance.

What is the main idea of this paragraph?: _____

Any form of association, or social group, which may be studied, if studied from the point of view of origin and development, whether it be a family, a neighborhood group, a city, a state, a trade union, or a party, will serve to reveal many of the problems of sociology. The natural or genetic social groups, however, such as the family, the community, and the nation, serve best to exhibit sociological problems. In this text we shall make particular use of the family, as the simplest and, in many ways, the most typical of all the forms of human association, to illustrate concretely the laws

and principles of social development. Through the study of the simple and primary forms of association the problems of sociology can be much better attacked than through the study of society at large, or association in general. From what has been said it may be inferred that society as a scientific term means scarcely more than the abstract term association, and this is correct. Association, indeed, may be regarded as the more scientific term of the two; at any rate it indicates more exactly what the sociologist deals with. A word may be said also as to the meaning of the word social. The sense in which this word will generally be used in this text is that of a collective adjective, referring to all that pertains to or relates to society in any way. The word social, then, is much broader than the words industrial, political, moral, religious, and embraces them all; that is, social phenomena are all phenomena which involve the interaction of two or more individuals. The word social, then, includes the economic, political, moral, religious, etc., and must not be thought of as something set in opposition to, for instance, the industrial or the political.

What is the main idea of this paragraph?: _____

_____

What is the main idea of this entire passage?: _____

_____

_____

The passage, SOCIOLOGY AND MODERN SOCIAL PROBLEMS, is adapted from http://www.gutenberg.org/cache/epub/6568/pg6568.html.

4 Determining Key Phrases in the Passage-Based Reading Questions

There are six main types of questions asked on the passage-based reading section:

- Main ideaprimary purposetitle
- Details
- Style
- Vocabulary in context
- Inferencesdrawing conclusions
- Tone

Each of these carry their own set of clue words. Look through a recent practice test you have taken and write down the phrasing used with each of these questions:

- Main ideaprimary purposetitle _____
- Details _____
- Style _____
- Vocabulary in context _____
- Inferencesdrawing conclusions _____
- Tone _____

The SATs are a standardized test, which means that they have to be able to demonstrate definitively why there is one and only one correct answer among the five answer choices given in a multiple choice problem. This means that there is always strong line number evidence for the correct answer (phrases from the passage) and many times the correct answer is re-worded from a line in the passage, particularly for main idea and details questions.

5 SAT Worksheet: Practice with Passage-Based Reading Questions

Directions: For each passage, underline the main point in each paragraph and put an arrow next to the main idea of the passage. Then, answer the questions that follow. **After you are finished answering the question, put the phrase or line number from the passage that served as your evidence for your answer.**

6 Practice

While it can be frustrating to get a question wrong, it can be helpful to see why the answer that you selected was incorrect. Furthermore, understanding why the incorrect answers are incorrect can also alert you to the answer choices that the SAT question writers will use to try get you to select the incorrect answers.

Why Incorrect SAT Answer Choices on the Passage-Based Reading Sections are Wrong

1. Too Broad/Require too much of a leap: Sometimes the passage is about a specific example (like a mammal) and then the answer choice will be _____ (like about animals). The answer choice might feel right or that the statement may be something the author would agree with, but it is usually not the best answer.

2. Too narrow: This type of choice might be in the text, but _____ doesn't completely answer the question. This is common in questions about the _____ of the passage.

3. Too Extreme: The SATs want to test how carefully you can read and a text. Therefore, words like , _____, _____, _____, _____, _____, and _____ are probably not good choices.

4. Not Stated in the Passage: The answer choice is not _____ anywhere in the passage or is _____ to the passage. This type of answer choice could make sense, but is not close enough to what is said in the passage.

5. True but unrelated to the Question: This type of answer choice might be _____ and _____ but it doesn't _____ the question.

7 Correcting Incorrect Answers

Directions: correct your incorrect answers from the previous SAT Worksheet. Label why your answer was incorrect (using one of the five classifications above). Then, write what you think the correct answer is and why, citing line number evidence from the text.

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Strategy #3 For Sentence Completions and Passage-Based Reading Questions: Determining Important Relationships in the Text

1 SAT Worksheet: Warm-Up

Directions: Fill out the following table with passage-based reading questions that you did for homework that you did not get correct.

Section and Question #	Reason why the answer I originally selected is wrong	Evidence for the correct answer (line # and phrase)	New Answer Selected

2 Determining the Relationships Between Parts of the Passage

3 Practice

4 Paired Passages

5 Practice

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Vocabulary

1 Vocabulary Words

18

Answer Key

??

ex1) 11

ex2) E

??

1) C

2) D

3) B

4) E

5) 17

6) 15