# SAT Student Manual 2



ASC English

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# Contents

1	Int	roduction	1
Ι	$\mathbf{S}_{I}$	AT Math	9
2	Ge	neral Strategies for SAT Math	11
3	Nu	mbers and Operations	13
	1	Arithmetic Word Problems	14
	2	Rational Numbers	16
	3	Sequences and Series	18
	4	Elementary Number Theory	20
	5	Sets	22
	6	Counting Techniques	24
4	Alg	gebra and Functions: Part I	27
	1	Algebraic Expressions	28
	2	Linear Equations	30
	3	Properties of Exponents	32
	4	System of Equations	34
	5	Equations of Lines	36
5	Alg	gebra and Functions: Part II	39
	1	Absolute Value	40
	2	Variation	42
	3	Quadratic Equations	44
	4	Rational & Radical	46
	5	Algebraic Functions	48
	6	New Symbols	50
6	Ge	ometry and Measurement: Part I	53
	1	Polygons	54
	2	Circles	56
	3	Volumes	58

#### **CONTENTS**

	4	Special Triangles	60
7	$\mathbf{G}\mathbf{e}$	ometry and Measurement: Part II	63
	1	Linear Relationships	64
	2	Slope	66
	3	Similarity	68
	4	Transformations	70
8	Ge	ometry and Measurement: Part III	<b>7</b> 3
_	1	Coordinate Geometry	74
	2	Geometric Visualization	76
9	Da	ta Analysis, Statistics, and Probability	79
	1	Data Interpretation with Tables	80
	2	Data Interpretation with Graphs	83
	3	Descriptive Statistics: Mean, Median, and Mode	86
	4	Probability	88
			01
II	. :	SAT Verbal	91
10	) Th	e Six Most Frequently Missed Errors on SAT Writing Multiple Choice:	
		rategies for Sentence Improvements and Sentence Errors	93
	1	The Six Most Frequently Missed Errors on SAT Writing Multiple Choice: Strate-	
		gies for Sentence Improvements and Sentence Errors	94
		1.1 SAT Worksheet: Warm-Up	94
	2	About the SAT Writing Section	95
	3	Types of Writing Multiple Choice Questions	96
	4	Mastering Sentence Improvement and Sentence Error Questions	97
	5	Verb Tense	98
	9	5.1 Subject-Verb Agreement	98
	6	SAT Worksheet: SAT Writing Multiple Choice Practice with Subject-Verb Agree-	50
	O	ment	99
		6.1 Using the Correct Verb Tense	99
	7	Pronouns	100
	1		100
		0	
		7.2 Unclear Pronouns	100
	0	7.3 Consistent Point of View	100
	8	Misplaced Modifiers	101
	6	8.1 SAT Worksheet: SAT Writing Multiple Choice Practice with Modifiers	101
	9	Parallelism	102
	10	Faulty Comparisons	103

11 Sentence Improvements         107           1 SAT Worksheet: Warm-Up         108           2 Identify the Error or Errors in the Original Sentence         110           3 Strategy for Eliminating Incorrect Answers         112           4 Picking the Most Clear and Concise Sentence         116           5 Sentence Improvements         117           12 Four Strategies to Beat Paragraph Improvements         117           1 SAT Worksheet: Warm-Up         120           2 Skim the Passage         121           3 Determine the Type of Question Von're Being Asked         122           4 Read the Lines Relevant to the Question         123           5 Develop Your Own Answer Before Looking at the Answer Choices         124           6 SAT Worksheet: Paragraph Improvement Practice         125           13 Six Strategies for a Perfect Six Essay and Practice         129           2 Strategy #1: Know the Right Structure         131           3 Strategy #2: Present a Clear Thesis         132           3 1 SAT Worksheet: Practice Writing Thesis Statements         132           4 Strategy #3: Us 1 Specific Example in Each Body Paragraph         134           4 Strategy #3: Us 1 Specific Example in Each Body Paragraph         134           5 Strategy #4: Write a Clear, Two-Part Conclusion         136           5 Stra		11	Word Choice	104
1         SAT Worksheet: Warm-Up         108           2         Identify the Error or Errors in the Original Sentence         110           3         Strategy for Eliminating Incorrect Answers         112           4         Picking the Most Clear and Concise Sentence         116           5         Sentence Improvements         117           12         Four Strategies to Beat Paragraph Improvements         119           1         SAT Worksheet: Warm-Up         120           2         Skim the Passage         121           3         Determine the Type of Question You're Being Asked         122           4         Read the Lines Relevant to the Question         123           5         Develop Your Own Answer Before Looking at the Answer Choices         124           6         SAT Worksheet: Paragraph Improvement Practice         125           13         Six Strategies for a Perfect Six Essay and Practice         129           1         SAT Worksheet: Warm-Up         130           2         Strategy #1: Know the Right Structure         131           3         Strategy #2: Present a Clear Thesis         132           3.1         SAT Worksheet: Practice Writing Thesis Statements         132           4         Strategy #3: Use 1 Specific Example in		12	Other Common Errors	105
2 Identify the Error or Errors in the Original Sentence         110           3 Strategy for Eliminating Incorrect Answers         112           4 Picking the Most Clear and Concise Sentence         116           5 Sentence Improvements         117           12 Four Strategies to Beat Paragraph Improvements         119           1 SAT Worksheet: Warm-Up         120           2 Skim the Passage         121           3 Determine the Type of Question You're Being Asked         122           4 Read the Lines Relevant to the Question         123           5 Develop Your Own Answer Before Looking at the Answer Choices         124           6 SAT Worksheet: Paragraph Improvement Practice         125           13 Six Strategies for a Perfect Six Essay and Practice         129           1 SAT Worksheet: Warm-Up         130           2 Strategy #1: Know the Right Structure         131           3 Strategy #2: Present a Clear Thesis         132           3.1 SAT Worksheet: Practice Writing Thesis Statements         132           4 Strategy #3: Use 1 Specific Example in Each Body Paragraph         134           4.1 SAT Worksheet: Practice Writing Specific Examples         134           5 Strategy #4: Write a Clear, Two-Part Conclusion         136           5.1 SAT Worksheet: Paratice Writing Conclusions         136	11	Ser	ntence Improvements	107
3       Strategy for Eliminating Incorrect Answers       112         4       Picking the Most Clear and Concise Sentence       116         5       Sentence Improvements       117         12       Four Strategies to Beat Paragraph Improvements       119         1       SAT Worksheet: Warm-Up       120         2       Skim the Passage       121         3       Determine the Type of Question You're Being Asked       122         4       Read the Lines Relevant to the Question       123         5       Develop Your Own Answer Before Looking at the Answer Choices       124         6       SAT Worksheet: Paragraph Improvement Practice       125         13       Six Strategies for a Perfect Six Essay and Practice       129         1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #1: Know the Right Structure       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Specific Examples       134         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         5		1	SAT Worksheet: Warm-Up	108
4         Picking the Most Clear and Concise Sentence         116           5         Sentence Improvements         117           12         Four Strategies to Beat Paragraph Improvements         119           1         SAT Worksheet: Warm-Up         120           2         Skim the Passage         121           3         Determine the Type of Question You're Being Asked         122           4         Read the Lines Relevant to the Question         123           5         Develop Your Own Answer Before Looking at the Answer Choices         124           6         SAT Worksheet: Paragraph Improvement Practice         125           13         Six Strategies for a Perfect Six Essay and Practice         129           1         SAT Worksheet: Warm-Up         130           2         Strategy #1: Know the Right Structure         131           3         Strategy #2: Present a Clear Thesis         132           3.1         SAT Worksheet: Practice Writing Thesis Statements         132           4         Strategy #3: Use 1 Specific Example in Each Body Paragraph         134           4.1         SAT Worksheet: Practice Writing Specific Examples         134           5         Strategy #4: Write a Clear, Two-Part Conclusion         136           5.1 <t< td=""><td></td><td>2</td><td>Identify the Error or Errors in the Original Sentence</td><td>110</td></t<>		2	Identify the Error or Errors in the Original Sentence	110
5         Sentence Improvements         117           12         Four Strategies to Beat Paragraph Improvements         119           1         SAT Worksheet: Warm-Up         120           2         Skim the Passage         121           3         Determine the Type of Question You're Being Asked         122           4         Read the Lines Relevant to the Question         123           5         Develop Your Own Answer Before Looking at the Answer Choices         124           6         SAT Worksheet: Paragraph Improvement Practice         125           13         Six Strategies for a Perfect Six Essay and Practice         129           1         SAT Worksheet: Warm-Up         130           2         Strategy #1: Know the Right Structure         131           3         Strategy #2: Present a Clear Thesis         132           3.1         SAT Worksheet: Practice Writing Thesis Statements         132           4         Strategy #3: Use 1 Specific Example in Each Body Paragraph         134           4.1         SAT Worksheet: Practice Writing Specific Examples         134           5         Strategy #4: Write a Clear, Two-Part Conclusion         136           5.1         SAT Worksheet: Practice Writing Conclusions         136           6 <t< td=""><td></td><td>3</td><td>Strategy for Eliminating Incorrect Answers</td><td>112</td></t<>		3	Strategy for Eliminating Incorrect Answers	112
12 Four Strategies to Beat Paragraph Improvements         1 SAT Worksheet: Warm-Up         120           2 Skim the Passage         121           3 Determine the Type of Question You're Being Asked         122           4 Read the Lines Relevant to the Question         123           5 Develop Your Own Answer Before Looking at the Answer Choices         124           6 SAT Worksheet: Paragraph Improvement Practice         125           13 Six Strategies for a Perfect Six Essay and Practice         129           1 SAT Worksheet: Warm-Up         130           2 Strategy #1: Know the Right Structure         131           3 Strategy #2: Present a Clear Thesis         132           3.1 SAT Worksheet: Practice Writing Thesis Statements         132           4 Strategy #3: Use 1 Specific Example in Each Body Paragraph         134           4.1 SAT Worksheet: Practice Writing Specific Examples         134           5 Strategy #4: Write a Clear, Two-Part Conclusion         136           5.1 SAT Worksheet: Practice Writing Conclusions         136           5.1 SAT Worksheet: Practice Writing Conclusions         136           6 Strategy #5: Use Transitions Between Paragraphs         137           7 Use Formal Language and Proper Grammar         138           7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and refere of grammatical mi		4	Picking the Most Clear and Concise Sentence	116
1       SAT Worksheet: Warm-Up       120         2       Skim the Passage       121         3       Determine the Type of Question You're Being Asked       122         4       Read the Lines Relevant to the Question       123         5       Develop Your Own Answer Before Looking at the Answer Choices       124         6       SAT Worksheet: Paragraph Improvement Practice       125         13       Six Strategies for a Perfect Six Essay and Practice       129         1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal		5	Sentence Improvements	117
2       Skim the Passage       121         3       Determine the Type of Question You're Being Asked       122         4       Read the Lines Relevant to the Question       123         5       Develop Your Own Answer Before Looking at the Answer Choices       124         6       SAT Worksheet: Paragraph Improvement Practice       125         13       Six Strategies for a Perfect Six Essay and Practice       129         1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         3.1       SAT Worksheet: Practice Writing Specific Examples       134         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138 <t< td=""><td>12</td><td>For</td><td>ır Strategies to Beat Paragraph Improvements</td><td>119</td></t<>	12	For	ır Strategies to Beat Paragraph Improvements	119
3         Determine the Type of Question You're Being Asked         122           4         Read the Lines Relevant to the Question         123           5         Develop Your Own Answer Before Looking at the Answer Choices         124           6         SAT Worksheet: Paragraph Improvement Practice         125           13         Six Strategies for a Perfect Six Essay and Practice         129           1         SAT Worksheet: Warm-Up         130           2         Strategy #1: Know the Right Structure         131           3         Strategy #2: Present a Clear Thesis         132           3.1         SAT Worksheet: Practice Writing Thesis Statements         132           4         Strategy #3: Use 1 Specific Example in Each Body Paragraph         134           4.1         SAT Worksheet: Practice Writing Specific Examples         134           5         Strategy #4: Write a Clear, Two-Part Conclusion         136           6         Strategy #4: Write a Clear, Two-Part Conclusions         136           6         Strategy #5: Use Transitions Between Paragraphs         137           7         Use Formal Language and Proper Grammar         138           8         SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes         138		1	SAT Worksheet: Warm-Up	120
4       Read the Lines Relevant to the Question       123         5       Develop Your Own Answer Before Looking at the Answer Choices       124         6       SAT Worksheet: Paragraph Improvement Practice       125         13       Six Strategies for a Perfect Six Essay and Practice       129         1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary		2	Skim the Passage	121
5         Develop Your Own Answer Before Looking at the Answer Choices         124           6         SAT Worksheet: Paragraph Improvement Practice         125           13         Six Strategies for a Perfect Six Essay and Practice         129           1         SAT Worksheet: Warm-Up         130           2         Strategy #1: Know the Right Structure         131           3         Strategy #2: Present a Clear Thesis         132           3.1         SAT Worksheet: Practice Writing Thesis Statements         132           4         Strategy #3: Use 1 Specific Example in Each Body Paragraph         134           4.1         SAT Worksheet: Practice Writing Specific Examples         134           5         Strategy #4: Write a Clear, Two-Part Conclusion         136           6         Strategy #4: Write a Clear, Two-Part Conclusions         136           6         Strategy #5: Use Transitions Between Paragraphs         137           7         Use Formal Language and Proper Grammar         138           7.1         SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes         138           8         SAT Essay Practice         140           14         Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary         143 </td <td></td> <td>3</td> <td>Determine the Type of Question You're Being Asked</td> <td>122</td>		3	Determine the Type of Question You're Being Asked	122
6       SAT Worksheet: Paragraph Improvement Practice       125         13       Six Strategies for a Perfect Six Essay and Practice       129         1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3		4	Read the Lines Relevant to the Question	123
6       SAT Worksheet: Paragraph Improvement Practice       125         13       Six Strategies for a Perfect Six Essay and Practice       129         1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3		5	Develop Your Own Answer Before Looking at the Answer Choices	124
1       SAT Worksheet: Warm-Up       130         2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words		6		125
2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words       148	13	Six	Strategies for a Perfect Six Essay and Practice	129
2       Strategy #1: Know the Right Structure       131         3       Strategy #2: Present a Clear Thesis       132         3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words       148		1	SAT Worksheet: Warm-Up	130
3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words       148		2		131
3.1       SAT Worksheet: Practice Writing Thesis Statements       132         4       Strategy #3: Use 1 Specific Example in Each Body Paragraph       134         4.1       SAT Worksheet: Practice Writing Specific Examples       134         5       Strategy #4: Write a Clear, Two-Part Conclusion       136         5.1       SAT Worksheet: Practice Writing Conclusions       136         6       Strategy #5: Use Transitions Between Paragraphs       137         7       Use Formal Language and Proper Grammar       138         7.1       SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes       138         8       SAT Essay Practice       140         14       Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary       143         1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words       148		3	Strategy #2: Present a Clear Thesis	132
4.1 SAT Worksheet: Practice Writing Specific Examples 134 5 Strategy #4: Write a Clear, Two-Part Conclusion 136 5.1 SAT Worksheet: Practice Writing Conclusions 136 6 Strategy #5: Use Transitions Between Paragraphs 137 7 Use Formal Language and Proper Grammar 138 7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes 138 8 SAT Essay Practice 140 14 Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary 143 1 SAT Worksheet: Warm-Up 144 2 SAT Vocabulary 145 3 Words to Know 146 4 Groups of Words 146 5 SATWorksheet: Practice with Grouping Vocabulary Words 148			3.1 SAT Worksheet: Practice Writing Thesis Statements	132
4.1 SAT Worksheet: Practice Writing Specific Examples 134 5 Strategy #4: Write a Clear, Two-Part Conclusion 136 5.1 SAT Worksheet: Practice Writing Conclusions 136 6 Strategy #5: Use Transitions Between Paragraphs 137 7 Use Formal Language and Proper Grammar 138 7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes 138 8 SAT Essay Practice 140 14 Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary 143 1 SAT Worksheet: Warm-Up 144 2 SAT Vocabulary 145 3 Words to Know 146 4 Groups of Words 146 5 SATWorksheet: Practice with Grouping Vocabulary Words 148		4		134
5.1 SAT Worksheet: Practice Writing Conclusions 136 6 Strategy #5: Use Transitions Between Paragraphs 137 7 Use Formal Language and Proper Grammar 138 7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes 138 8 SAT Essay Practice 140 14 Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary 143 1 SAT Worksheet: Warm-Up 144 2 SAT Vocabulary 145 3 Words to Know 146 4 Groups of Words 146 5 SATWorksheet: Practice with Grouping Vocabulary Words 148				134
6 Strategy #5: Use Transitions Between Paragraphs 137 7 Use Formal Language and Proper Grammar 138 7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes 138 8 SAT Essay Practice 140 14 Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary 143 1 SAT Worksheet: Warm-Up 144 2 SAT Vocabulary 145 3 Words to Know 146 4 Groups of Words 147 5 SATWorksheet: Practice with Grouping Vocabulary Words 148		5	Strategy #4: Write a Clear, Two-Part Conclusion	136
6 Strategy #5: Use Transitions Between Paragraphs 137 7 Use Formal Language and Proper Grammar 138 7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes 138 8 SAT Essay Practice 140 14 Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary 143 1 SAT Worksheet: Warm-Up 144 2 SAT Vocabulary 145 3 Words to Know 146 4 Groups of Words 147 5 SATWorksheet: Practice with Grouping Vocabulary Words 148			5.1 SAT Worksheet: Practice Writing Conclusions	136
7 Use Formal Language and Proper Grammar		6		137
7.1 SAT Worksheet: Correct the following sentences so that they each use formal language and are free of grammatical mistakes		7		138
8 SAT Essay Practice			2	
8 SAT Essay Practice			$\stackrel{\smile}{\cup}$	138
tions: Building Vocabulary  1 SAT Worksheet: Warm-Up  2 SAT Vocabulary  3 Words to Know  4 Groups of Words  5 SATWorksheet: Practice with Grouping Vocabulary Words  143  144  145  146  147		8		140
tions: Building Vocabulary  1 SAT Worksheet: Warm-Up  2 SAT Vocabulary  3 Words to Know  4 Groups of Words  5 SATWorksheet: Practice with Grouping Vocabulary Words  143  144  145  146  147	14	Str	rategy #1 For Sentence Completions and Passage-Based Reading Ques-	
1       SAT Worksheet: Warm-Up       144         2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words       148				143
2       SAT Vocabulary       145         3       Words to Know       146         4       Groups of Words       147         5       SATWorksheet: Practice with Grouping Vocabulary Words       148		_	· ·	144
3Words to Know		2	•	
4 Groups of Words			·	
5 SATWorksheet: Practice with Grouping Vocabulary Words				
			-	
			· · · · · · · · · · · · · · · ·	

#### **CONTENTS**

	7	SAT Worksheet: Practice Determining SAT Words using Prefixes, Suffixes, and	
		Roots	151
	8	Connotations	153
	9	SAT Worksheet: Determine the connotation of unfamiliar words	154
	10	SAT Worksheet: Practice with Unfamiliar Words	156
	11	SAT Worksheet: Sentence Completion Strategies Practice	157
	12	SAT Worksheet: Practice with 1-Blank Sentence Completion Questions	158
		12.1 SAT Worksheet: Practice with 2-Blank Sentence Completion Questions	160
	13	Vocabulary-in-Context Practice for Reading Comprehension	162
		13.1 SAT Worksheet: Vocabulary-in-Context Practice for Reading Comprehension	163
15	Str	rategy #2 For Sentence Completions and Passage-Based Reading Ques-	
	tio	ns: Determining Key Words	167
	1	SAT Worksheet: Warm-Up	168
	2	Determining Key Words In Sentence Completions	169
		2.1 SAT Worksheet: Practice with Key Words in Sentence Completions	169
	3	Determining Key Phrases in the Passage	170
		3.1 SAT Worksheet: Practice Identifying Main Ideas and Important Points	171
	4	Determining Key Phrases in the Passage-Based Reading Questions	174
	5	SAT Worksheet: Practice with Passage-Based Reading Questions	175
	6	Practice	176
	7	Correcting Incorrect Answers	177
16		rategy #3 For Sentence Completions and Passage-Based Reading Ques-	<b>1 -</b> 0
		ns: Determining Important Relationships in the Text	179
	1	SAT Worksheet: Warm-Up	180
	2	Determining the Relationships Between Parts of the Passage	181
	3	Practice	
	4	Paired Passages	183
	5	Practice	184
17	_	cabulary	185
	1	Vocabulary Words	186
18	An	swer Key	187
	1	Chapter 11 SAT Writing Multiple Choice Part III	187
		1.1 SAT Worksheet 1C: Warm-up	187
		1.2 Strategy for Paragraph improvements	188
		1.3 SAT Worksheet 2C: Exercises for Improving Paragraphs	189
		1.4 SAT Worksheet 3C: Paragraph Improvements Practice Questions	196

## 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	Topic Testing Time Number of		Skills Tested	
		Questions		
Critical Reading	Two 25 minute	67 Questions in total:	Vocabulary, sentence	
	sections and one 20	19 sentence	logic, answering	
	minute section	completions and 48	questions and making	
		passage based	inferences about a	
		questions	text	
Math	Two 25 minute	54 Questions in total:	Integrating and	
	sections and one 20	44 multiple choice	applying	
	minute section	and 10	mathematical	
		student-produced	concepts, including	
		responses	algebra, functions,	
			geometry, probability,	
			statistics, and data	
			interpretation	
Writing Multiple	One 25 minute	49 Questions in total:	Sentence structure	
Choice	section and one 10	25 Improving	and grammar,	
	minute section	sentences, 18	coherence and	
		identifying sentence	cohesion	
		errors, and 6		
		improving paragraph		
		questions		
Writing Essay	25 minutes	Write one essay on a	Writing and analysis	
		given topic	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:	$\underline{}$ correct $-$ 0.25 ( $\underline{}$	$\underline{\hspace{1cm}}$ ) incorrect $=$ $\underline{\hspace{1cm}}$
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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 improvements well as the grammatical or other writing concepts taught in this section.

## SAT Homework Agenda

Date Due	SAT Verbal	SAT Math
	I .	·

# Part I SAT Math

# **General Strategies for SAT Math**

# **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?

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: \_\_\_\_\_

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

#### 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?

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:

- (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?

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:

- (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  $120^{\circ}$ ?

**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?

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<sup>3</sup>, 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: \_\_\_\_\_

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

#### 5 Sets

General Equation:

#### Union

 $P \cup Q$ 

All elements in either set P or Q

#### Intersection

 $P \cap Q$ 

All elements in both P and Q

**Example 1:** Martha's has 15 cupcakes that are vanilla frosted and 10 cupcakes that are chocolate frosted. If two-thirds of Martha's cupcakes are both vanilla and chocolate frosted, how many cupcakes have vanilla frosting?

**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?

 Mr. Carter has a garden of yellow, white, and red rose bushes. The proportion of red rose bushes to all other bushes is 0.4.
 When he buys an additional 4 red rose bushes, the proportion increases to 0.5.
 How many non-red 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

Equation/Strategy: \_\_\_\_\_

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



## 6 Counting Techniques

General Equation:

Permutations

Without Repetition
$${}_{n}P_{r} = \frac{n!}{(n-r)!}$$

With Repetition 
$$n^r$$

Combinations

Without Repetition
$${}_{n}C_{r} = \frac{n!}{r!(n-r)!}$$

With Repetition 
$$\frac{(n+r-1)!}{r!(n-1)!}$$

**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?

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?

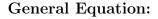
Equation/Strategy: \_\_\_\_\_

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



# Algebra and Functions: Part I

## 1 Substitution and Simplifying Algebraic Expressions



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?

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:

- (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 of a year. 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?

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: \_

- (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

$$a^m \cdot a^n = a^{m+n}$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$(ab)^m = a^m \cdot b^m$$

$$(a^m)^n = a^{mn}$$

**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?

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: \_\_\_\_\_

- (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 
$$m_1 = m_2$$

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

**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?

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: \_\_\_\_\_

- (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?

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) 160
- (b) 175
- (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  $90^{\circ}$  and a 6-gon is  $120^{\circ}$ , what is the sum of all interior angles of an n-gon whose interior angles are each  $144^{\circ}$ ?

Equation/Strategy: \_\_\_\_\_

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

## 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 is thrown upward from the ground and travels a distance of n meters, then bounces to a height half of the previous. If the ball bounces 5 times, what is the total distance traveled by the ball in terms of n?

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)  $5\pi$  meters
- (b)  $10\pi$  meters
- (c)  $40\pi$  meters
- (d)  $20\pi$  meters
- (e)  $100\pi$  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: \_\_\_\_\_

(A) 
$$\left| \frac{5gh}{ms} \right|$$

(C) 
$$\left| \frac{5hm}{gs} \right|$$

(D) 
$$\left| \frac{hm}{5as} \right|$$

(B) 
$$\left| \frac{gh}{5ms} \right|$$

(E) 
$$\left| \frac{gs}{5hm} \right|$$

### 2 Direct and Inverse Variation

General Equation:

Direct Variation 
$$y = kx$$

Joint Variation 
$$xy = k$$

**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 mph 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?

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<sup>-</sup>]. If the pH is 4 when [OH<sup>-</sup>] is 10<sup>-10</sup>, what is the pH decreased by when the [OH<sup>-</sup>] 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: \_\_\_\_\_

- (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?

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)  $25 \text{ cm}^2$
- (b)  $50 \text{ cm}^2$
- (c)  $100 \text{ cm}^2$
- (d)  $500 \text{ cm}^2$
- (e)  $625 \text{ cm}^2$
- 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: \_\_\_\_

- (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
- $\bullet \ \frac{a}{c} = \frac{b}{d}$

**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?

1. The probability of choosing a red marble is 1 out of p marbles and the probability of choosing a green marble is 1 out of q marbles. Which expression represents the probability 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: \_\_\_\_\_

- (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  $3 \times 3$ ,  $4 \times 4$ , and  $5 \times 5$  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?

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  $f(\Box) = \clubsuit$  and  $f(\clubsuit) = \Box$  for all  $\clubsuit$  and  $\Box$ . 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:

- (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?

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  $a \ge 0$ , and a = -a when a < 0. What is the value of  $a^2@-|a^2|@\sqrt{(-a^2)^2}$ ?

Equation/Strategy:

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

# 6

## Geometry and Measurement: Part I

## 1 Area and Perimeter of a Polygon

### General Equation:

Area
The measure of the surface of a two-dimensional shape

Perimeter
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?

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:

- (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?

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)  $9\pi$
- (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)  $2\pi$
- (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:

- (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 
$$V = l \times w \times h$$

Volume of a Cube 
$$V = s^3$$

Volume of a Cylinder 
$$V = \pi r^2 h$$

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

**Example 2:** A cube is made by stacking smaller  $4 \times 4$  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?

1. A rectangular box has a volume of 36 in<sup>3</sup> 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)  $0 \text{ in}^3$
- (b)  $2 \text{ in}^3$
- (c)  $4 \text{ in}^3$
- (d)  $6 \text{ in}^3$
- (e)  $8 \text{ in}^3$
- 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:

- (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?

1. The area of an equilateral triangle is 16 cm<sup>2</sup>. 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:

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

## 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

$$\frac{\text{Parallel Lines}}{m_1 = m_2}$$

$$\frac{\text{Perpendicular Lines}}{m_1 \cdot m_2 = -1}$$

**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?

- 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:

- (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:

- (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?

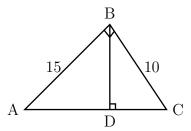
Equation/Strategy: \_\_\_\_\_

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<sup>3</sup> to the diagonal of a cube with a volume of 64 cm<sup>3</sup>?

Equation/Strategy:

- (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
- $\bullet$  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
- $\bullet$  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
- $\bullet$  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)?

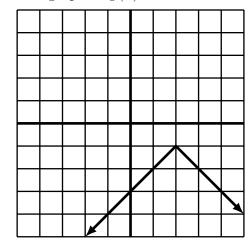
#### **MEDIUM**

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 q(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)  $\frac{1}{1/f(x)}$
- (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:

- (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)



### Geometry and Measurement: Part III

#### 1 Coordinate Geometry

General Equation:

Distance Formula

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

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

**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:

- (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:

- (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	$\operatorname{Apr}$	May	$\operatorname{Jun}$	$\operatorname{Jul}$	Aug	Sept	$\operatorname{Oct}$	Nov	$\operatorname{Dec}$
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:

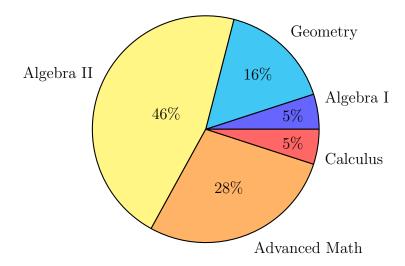


#### 1. Data Interpretation with Tables

- (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.<sup>1</sup>

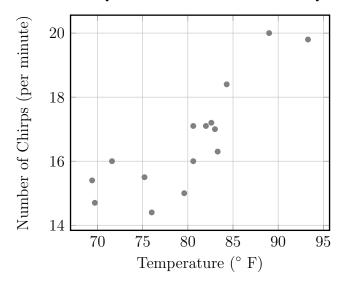
**Example 1:** What proportion of students completed Algebra II or Advanced Math over all other courses?

**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?

<sup>&</sup>lt;sup>1</sup>U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), Mathematics Curriculum Study, 2005.

#### **Temperature vs Cricket Chirps**



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: \_\_\_\_

- (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

**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

Range The difference between the highest and lowest values in a set

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**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. The mean of a set is less than the median of the set. If a is a positive integer, which of the following could be the set?

Equation/Strategy: \_\_\_\_\_

Solve:

- (a)  $\{a, a, a, a, a, a\}$
- (b)  $\{a, a, a, a, 2a, 2a\}$
- (c)  $\{a, a, a, 2a, 2a, 2a\}$
- (d)  $\{a, a, 2a, 2a, 2a, 2a, 2a\}$
- (e)  $\{a, 2a, 3a, 4a, 5a, 6a\}$
- 2. The range of a set is twice its median. If the median is m, what is the average (arithmetic mean) of the set in terms of m?

Equation/Strategy:

Solve:

- (a) 0
- (b) 1
- (c) m
- (d) 2m
- (e) Cannot be determined from the information given

#### **ADVANCED**

- 3. Which of the following are true about the set of consecutive integers from 1 to n?
  - I The median is  $\frac{n}{2}$
  - II The average is  $\frac{n+1}{n}$
  - III The range is equal to n-1

Equation/Strategy: \_\_\_\_\_

Solve:

- (a) I only
- (b) II only
- (c) I and II are true
- (d) II and III are true
- (e) I, II, and III are true
- 4. Kelly's test average was an 85. On her last exam, she received a 95 and her test average increased by 2 points. How many tests has Kelly taken?

Equation/Strategy:

- (a) 2
- (b) 3
- (c) 4
- (d) 5
- (e) 6

#### 4 Probability

General Equation:

$$P_{A \text{ and } B} = P_A \cdot P_B$$
 
$$P_{A \text{ or } B} = P_A + P_B - P_{A \text{ and } B}$$

**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:
- Example 3:

MEDIUM	ADVANCED			
	(e)			
1. Equation/Strategy:				
Solve:	3. Equation/Strategy:			
bolve.	Solve:			
	(a)			
	(b)			
(a)	(c)			
(b)	(d)			
(c)	(2)			
(d)	(e)			
(e)	Equation/Strategy:			
	Solve:			
Equation/Strategy:	-			
Solve:				
	4. (a)			
	(b)			
	(d)			
	(e)			
2 ()				
2. (a)				
(b)				
(c) (d)				
(u)				

# Part II SAT Verbal

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 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, <u>but also tells you what and how to get to various destinations.</u>
(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 Dominican background has influenced her writing, describes many details of $\frac{A}{A}$ life in the Caribbean Islands vividly in her novels and short stories. No Error $\frac{A}{B}$
Paragraph Improvements

Essay

#### 2 About the SAT Writing Section

Your score on the SAT writing section is dependent upon	n your performance in three sections,
two multiple choice sections and one essay section. In th	is section, we will concentrate on the
multiple choice sections. There are two multiple choice s	ections, 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	f writing multiple	choice question	ong ig	
Ι.	The mst type of	i writing munipie	: choice questioi.		

- 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 first, 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 modifiers, parallelism, faulty conjunctions, and idioms are the six most commonly missed errors on the SAT Writing multiple 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.

smart.

#### 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 \_\_\_\_\_
- 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 is are 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 is are 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 occurred and 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 present. 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.

#### 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

• Passive Voice: \_

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:

# 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	l just as	well-maintain	ied as Centi	ral Park.
	Type of error(s): uncl	ear pronou	n, not conc	eise			
	Sample correction: old	der than bu	ıt still iust	as well-	maintained as	s Central Pa	ark.

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 $\underline{\text{featured many well-respected actors and was winning many awards for}}$ 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.

Sample correction: \_\_\_\_\_

Type of error(s): \_

6.	After waiting an hour for her friend, the woman finally <u>arrived in the theater donning a red dress.</u>
	Type of error(s): Sample correction:
7.	Overjoyed that he was accepted his first choice college, <u>Stephen is currently being slightly ridiculous.</u>
	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):
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 Strategy for Eliminating 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.

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.

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.

Directions: Eliminate the answer choices that are grammatically incorrect for the following sentences. After you have eliminated an answer choice, write why it was incorrect on the line. Then, determine the correct answer using the strategy presented above. 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.

#### 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
- 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 <u>featured many well-respected actors and was winning many awards for</u> 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)

## 3. Strategy for Eliminating Incorrect Answers

6.	After waiting an hour for her friend, the woman finally <u>arrived in the theater donning a red dress.</u>
	(A)
	(B)
	(C)
	(D)
	(E)
7.	Overjoyed that he was accepted his first choice college, <u>Stephen is currently being slightly ridiculous.</u>
	(A)
	(A)
	(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 na-
10.	tion, 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)
	$(\mathbf{F})$

## 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

tell peoples stories and loved to be on camera.

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 ambiguity. 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

(A)		
(D)		

(E)

## 5. Sentence Improvements

## 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 t	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 identities. (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.

## 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. <b>I</b>	Paragraph 1:
	• 1-2 sentences of
	• 1 sentence of
	• 1 sentence for the
2. <b>F</b>	Paragraph 2:
	• The first sentence
	• 1 sentence to
	• 2-3 sentences of analysis a.k.a.
	2 0 solitonous of analysis a.x.a.
3. <b>I</b>	Paragraph 3:
	• Transition to the next paragraph by
	• 1 sentence to
	• 2-3 sentences of
4. <b>I</b>	Paragraph 4:
	• to the next paragraph
	• 1 sentence to
	• 2-3 sentences of
5. <b>F</b>	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
Direc	tions: Read the following essay prompts and write a clear thesis statement for an essay.
1.	"Happiness can only exist in acceptance." -George Orwell
	<b>Assignment:</b> 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
	<b>Assignment:</b> 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:

 $3. \ \ \textit{``Beware the barrenness of a busy life.''} \ \textit{-Socrates}.$ 

"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

studies, experience, or observations.	
• Thesis taking one point of view on this issue	
• Thesis taking a different viewpoint:	

it passes? Support your position with reasoning and examples taken from your reading,

#### Strategy #3: Use 1 Specific Example in Each Body Para-4 graph

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. <b>Assignment:</b> 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.
	<ul> <li>Which thesis did you select?</li> <li>Example 1: Describe your example.</li> <li>Describe how your example supports your thesis.</li> <li>Example 2: Describe your example.</li> <li>Describe how your example supports your thesis.</li> <li>Example 3: Describe your example.</li> </ul>

## 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 first 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:

#### Use Formal Language and Proper Grammar 7

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:

### Chapter 13: Six Strategies for a Perfect Six Essay and Practice

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:	
	Paul wasn't sure what he was going to see when he rolled up to the party.  Errors:	
	Fix It:	
	1 1A 10.	

## 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." - $Adam\ Smith$ 

<b>Assignment:</b> 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 ed 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.			

# 14

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.

1. Words that mean "reserved"

• reticent

• taciturn

# 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.

•
•
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.

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?
Ag-, agi-, ig-, act- means do, move, or go. What will someone who is a poor navigator have trouble with?
Arch means chief, first, rule means. Do you think that American society is patriarchal or matriarchal?
Belli- means war. In what situation might someone be belligerent?
Carp-, cip-, cept means to take. How might this help you to figure out the definition of the word "inception"?
Cred- means to Name some credible news sources
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?
Duc-, duct- means to lead or to pull. If someone abducts someone else, what did they do?
Fac-, fact-, fic-, fect- means to do or make. What is currently not feasible without modern technology?
Fall-, fals- means to deceive. If someone is described as fallacious, would you want to be friends with them?
Fid-, fide-, feder- means faith or trust. If someone confides in you, what do they do?
Grad-, gress- means to bring together, to step or to go. How do you measure progress in your SAT class?
Greg- means herd. Where might a congregation of people meet?
Homo- means same whereas hetero- means different. What do you think that the word "homophone" means?(Hint: What do you think "phon-" means?
Jac-, Ject- means insert. What do you think is the goal of a projectile weapon?
Logue locute means to talk or to speak. Who is the most loguacious person in your class?

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

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

#### SAT Worksheet: Determine the connotation of unfamil-9 iar 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

# Chapter 14: Strategy #1 For Sentence Completions and Passage-Based Reading Questions: Building Vocabulary

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
		labyrinth
	(C)	credible
	` /	abrogate
	( /	tangible
0	( )	
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 particular blank.

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

# 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 friends; everyone thought he was lying.	was not seen as by	his
	(A) billowing		
	(B) labyrinth		
	(C) credible		
	(D) abrogate		
	(E) tangible		
	Strategies used:I	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:I	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 identify 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.

orden emmade meorreed answe	choices by chilinating the first word of the s	occoma word. If you
don't know what the first word	l in the answer choice, see if the second word n	makes sense or vice
versa.		
- *	wing example as a class. Cross out the answer	choices in which
one or both of the words do no	t make sense in the sentence.	
Do not	the your meaning with a	of
fancy words. Rather, speak cle	early and simply.	
(A) intimidate $\dots$ debacle		
(B) synthesize colossus		
(C) temper harangue		
(D) obfuscate $\dots$ plethora		
(E) abrogate laceration		
How I solved the prob	lem:	
Directions: Complete the	following 2-blank sentence completions	individually or
_	the answer choices in which one or bo	, and the second
_		in of the words
do not make sense in the	sentence.	
1. The	child believed even the most ab	bsurd
(A) persnickety pe	erfidy	
(B) virulent quan	dary	
(D) viruientquan	uai y	

(E) tawdry ... tedium

(C) complacent ... quarry

(D) credulous ... drivel

2	The pro-	posal would not be adopted until is could
∠.	be shown to not have	<del>-</del>
	(A) tentative detrimental	
	(B) assiduous undetermined	
	(C) palliative unctuous	
	(D) caucus analgesic	
	(E) sanguine inadvertent	

# 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?"

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

Definition of "indulgent":

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 tl	he	main	idea	of	this	paragraph?:	
							L	•

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

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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

60

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	maın	idea	of this	paragr	aph?:			
What is	the	main	idea	of this	entire	passag	e?: _		

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

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# 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
- T

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 state-	
	ment 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.	
	build in the pussage.	
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.

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	Reason why the an-	Evidence for the cor-	New Answer
Question $\#$	swer I originally se-	rect answer (line #	Selected
	lected is wrong	and phrase)	

2 Determining the Relationships Between Parts of the Passage

#### Practice 3

## 4 Paired Passages

#### Practice **5**

# 17 Vocabulary

# 1 Vocabulary Words

# 18 Answer Key

??

ex1) 11

ex2) E

??

- 1) C
- 2) D
- 3) B
- 4) E
- 5) 17
- 6) 15

#### Chapter 11 SAT Writing Multiple Choice Part III 1

#### 1.1 SAT Worksheet 1C: Warm-up

- 1. B. Explanation: This sentence can be improved by changing the gerund "reporting" to its noun form, "the report."
- 2. C. Explanation: Wordiness. Improve this sentence by simplifying "for it will encourage" to simply "to encourage."

3. **B**. Explanation: Shift in point of view. The subject needs to stay the same in both clauses. It is incorrect to switch from second person "you" to first person plural "our." Changing "you" to "we" in the first clause fixes this problem.

#### 1.2 Strategy for Paragraph improvements

- 1. Quickly read over the paragraphs and take note of the **main idea of the essay**. **Mark** any grammatical errors that you see right away because there will probably be a question about that.
- 2. Then look at the first question.
- 3. Reread the sentence in context. Read the sentence **before** and the sentence **after** the line in the question.

If it is a sentence improvement question, look for the "alerts" and other errors in the Writing Multiple Choice Part I and Part II.

If it is a sentence addition or move question, ask yourself, "does it fit where it is, or would it be better somewhere else?" Remember: The sentences need to be coherent. Frequently, the SAT tests this by making the first part of the sentence similar to the last part of the previous sentence (that is, discussing the same topic as the second half of the previous sentence).

If it doesn't discuss the topic(s) presented in the sentences around it or otherwise seems random, it may need to be removed completely.

If you think that it should stay where it is, you can re-visit the option of fixing it. If it's a run-on, try shortening it or splitting it into two sentences. This tests the same skills as Sentence Improvement questions. Before you improve the sentence though, make sure it belongs where it is! Always consider sentences in context.

- 4. Think of your own answer choice.
- 5. Look at the answer choices. **Select** the one that comes closest to your answer.

#### 1.3 SAT Worksheet 2C: Exercises for Improving Paragraphs

#### 1. Exercise 1: Fragments

Is there Life on Mars?

The basis of this belief is that if, as we saw, all the globes in our solar system are masses of metal that are cooling down, the smaller will have cooled down before the larger, and will be further ahead in their development. Now Mars is very much smaller than the earth, and must have cooled at its surface millions of years before the earth did. Hence, if a story of life began on Mars at all. Sample correction: Hence, if a story of life began on Mars at all, it began long before the story of life on the earth. We cannot guess what sort of life-forms would be evolved in a different world, but we can confidently say that they would tend toward increasing intelligence; and thus we are disposed to look for highly intelligent beings on Mars.

But this argument supposes that the conditions of life, namely air and water, are found on Mars, and it is disputed whether they are found there in sufficient quantity. The late Professor Percival Lowell, who made a lifelong study of Mars, there are hundreds of straight lines drawn across the surface of the planet, and he claimed that they are beds of vegetation marking the sites of great channels or pipes by means of which the "Martians" draw water from their polar ocean. Sample correction: The late Professor Percival Lowell, who made a lifelong study of Mars, said that there are hundreds of straight lines drawn across the surface of the planes . . . Professor W. H. Pickering, another high authority, thinks that the lines are long, narrow marshes fed by moist winds from the poles. There are certainly white polar caps on Mars. They seem to melt in the spring, and the dark fringe round them grows broader.

Other astronomers, however, say that they find no trace of water-vapor in the atmosphere of Mars, and they think that the polar caps may be simply thin sheets of hoar-frost or frozen gas. And they point out that, as the atmosphere of Mars is certainly scanty, and the distance from the sun is so great. Sample correction: And they point out that, as the atmosphere of Mars is certainly scanty, and the distance from the sun is so great, there probably isn't water If one asks why our wonderful instruments cannot settle these points, one must be reminded that Mars is never nearer than 34,000,000 miles from the earth, and only approaches to this distance once in fifteen or seventeen years. The image of Mars on the photographic negative taken in a big telescope is very small. Astronomers rely to a great extent on the eye, which is more sensitive than the photographic plate. But it is easy to have differences of opinion as to what the eye sees. Sample correction: Combine the previous two sentences.

In August, 1924, the planet again be well placed for observation, and we may learn more about it. Sample correction: In August, 1924, the planet will again be well placed for observation, and we may learn more about it. Already a few of the much-disputed lines, which people wrongly call "canals," have been traced on photographs. Astronomers who are skeptical about life on Mars are often not fully aware of the extraordinary adaptability of life. There was a time when the climate of the whole earth, from pole to pole, was semi-tropical for millions of years. No animal could then endure the least cold, yet now we have plenty of Arctic plants and animals. If the cold came slowly on Mars, as we have reason to suppose, the population could be gradually adapted to it. On the whole, it is possible that there is advanced life on Mars, and it is not impossible, in spite of the very great difficulties of a code of communication, that our "elder brothers" may yet flash across space the solution of many of our problems.

#### 2. Exercise 2: Transitions and Conjunctions

The following are sample answers. Answers may vary.

As a recently permitted driver, I have become familiar with some of the laws that the Massachusetts State Legislature has enacted in an attempt to curb the number of accidents involving teen drivers. These admirable bills have saved the lives of the state's children and made the roads safer for all drivers and passengers, not to mention pedestrians. **However**, it

is of grave concern that there is currently very little regulation of the age group with the second highest number of motor vehicle crashes, the elderly (age sixty-five and older). The passage of proposed Bill 1914 will mandate that "the registrar shall require that all persons aged 85 or older who are seeking to renew their operator's licenses take a vision and road test before being reissued such license". **As a result**, I am writing to urge your support for this precedent-setting bill.

Those unfit to operate a vehicle are literally "accidents waiting to happen", jeopardizing their own lives and endangering public safety when they operate an automobile. According to the Governor's Highway Safety Bureau, older drivers were involved in 18,743 crashes in Massachusetts in 2002 and this age group was responsible for over 12% of all motor vehicle fatalities. The National Highway Traffic Safety Administration reports that these statistics continue to rise steadily as the number of traffic-related deaths in the general population decline.

Opponents of this bill may argue that since few elderly people are licensed to drive, they do not pose a serious threat on the road. This is an oversimplification **because** the number of seniors driving in Massachusetts totaled more than 858,000 in 2000. The aging of the Baby Boom generation **and** medical advancements have contributed to an increase in elderly drivers. **Consequently** these problems can only escalate, as the National Institute on Aging predicts that in 30 years, the number of drivers over the age of eighty-five will be five times greater than today. Using this conservative estimate of the number of drivers and current accident rates, it is forecasted that this increase in population will result in the tripling of traffic fatalities caused by this age group. **Moreover** legislation passed now will lower preventable deaths and will also have widespread implications for the future.

Currently, the only people that are required to have their vision checked are first time license applicants and those persons renewing their licenses at a Registry branch. People of any age who renew their license online are exempt from this personal screening. This is relevant information **because** researchers at the University of Alabama concurred with a 1995 Johns Hop-

kins University study which found that state-mandated vision tests of elderly drivers are successful in lowering their accident rate.

**Therefore**, Bill 1914 does not seek to deprive elders of their independence by mandating that senior citizens forfeit their license at a certain age; **instead**, the bill assures that those who choose to drive are able to safely do so.

#### 3. Exercise 3: Sentence Order in a Paragraph Directions:

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

#### The whole paragraph reads as follows:

Images of 1920s America is one of endless parties, bootlegging, and flappers doing the Charleston all night long. Throughout the novel, The Great Gatsby, the character of Mr. Gatsby is at the center of this stereotype. Coming from humble, mid-western roots and arriving at his current living situation, complete with domestic servants and a forty-acre mansion, his story seems to be the epitome of the American dream. He learns, however, that he can not use his power to buy the sole object of his affection, Daisy Buchannan. Although money correlates to economic power in 1920's American society and allows some leverage in other arenas, the powerful Mr. Gatsby is ultimately rejected by Daisy due to socio-economic class divisions.

#### 4. Exercise 4: Making an essay clearer and more concise

The following boldface sentences or phrases can be deleted or moved:

College in the United States is extremely expensive. With tuition costing as much as \$60,000 per year, many parents and students are worried about paying for college. There are many opportunities for students to get money for school from outside organizations, government agencies, and

the particular university that they hope to attend. Students can get grants or scholarships that do not have to be paid back in addition to loans, which students begin to pay back after graduation. For example, a student named Ben Kaplan was so worried about paying for Harvard that he wrote scholarship essays that earned him over \$90,000 for college. Would be better later in the essay.

Students don't have to be the valedictorian or a star quarterback, in fact, lots of qualities, interests, and affiliations will make students eligible. Lots of different students can get money for college! Many organizations, including companies, non-profits, and unique heritage groups, award scholarships there are scholarships for almost everything. Parents and students should start searching early in the college process and **not wait until the last** minute. There are also national contests for high school writers, historians, and scientists, such as the Ayn Rand Essay Contests, National History Day Contest, and Intel International Science and Engineering Fair. The previous sentence would be better if it was moved to the last sentence of the paragraph. There are many online resources such as finaid.org and fastweb.com to help students find scholarships. Students can search for books about obtaining money for college, such as How to Go to College Almost for Free, at local libraries, bookstores, and high school guidance departments. Students can also call local businesses and associations and ask if they have any scholarships or contests with prize money. Some national groups have awards as well.

In order to get federally backed loans from their university, students need to fill out the Free Application for Federal Student Aid (FASFA) online. Each college also gives out a certain number of merit-based scholarships to attract students to their schools. This sentence is better moved later in the paragraph to the part about merit-based scholarships. After filling out the FASFA, students are sent the Student Aid Report (SAR). Colleges use the SAT to determine student's financial aid package, that is to say colleges use this to estimate how much money a student's family can contribute to tuition and how much money a student

is able to borrow. The best way to get this type of scholarship is to have a high GPA and SAT score relative to the current freshman class. This sentence is better moved later in the paragraph after the introduction of merit-based scholarships Strong students are awarded merit-based scholarships. Students can also ask about the number and amount of merit-based scholarships that by calling the school or asking an admissions officer during their college visit. These sentences are better moved later in the paragraph to the part about merit-based scholarships. With scholarships and financial aid, it 'pays' to plan!

#### 5. Exercise 5: Dividing an essay into different paragraphs

Note that the bolded sentences are where a new paragraph begins. You may want to provide the hint to students that there are 4 paragraphs.

The poetry of Robert Frost and Thylias Moss were influenced by different events, which attributed to the contrasting attitudes toward similar subjects in their poetry. Frost, living in New England, was influenced by serenity and breathtaking scenes of nature. His poem, Stopping By Woods on a Snowy Evening epitomizes this, as the Speaker desperately desires to watch the woods fill up with snow, but regretfully acknowledges that he must continue on his journey before he can rest. With thoughts of the beauty of his home, Frost's mood is joyous. Not all poets, however, are as agreeable as he. When writing Interpretation of A Poem By Frost, Thylias Moss describes the filling up of woods with snow through the bleak perspective of a young African American girl. In both poems, diction and imagery work collaboratively to establish the two dissimilar tones of the authors. While Frost's attitude towards the metaphorical woods is cheery and appreciative, Moss's seems to be angry and frustrated.

In creating the different tones of voice, Frost and Moss utilize contrasting choices of words. Frost utilizes passive diction, easy wind and downy flake, as well as end rhymes to create a pleasant atmosphere. The rhymes make the poem flow smoothly and the words sound gentle, pleasing to the ear. These combine to produce a lighter mood than in the

poem by Moss. The latter author employs words such as inter, emptiness, polarity, edge (synonymous for sharp), and defiance. The use of these harsh words verifies her feelings toward the subject as angry. The most apparent difference in diction, however, are the words chosen to describe the animal. Frost playfully calls the creature a little horse who shakes his harness bells when the Speaker stops to look at the woods. Moss refers to it as a limited audience, and believes the girl's efforts of defiance to be wasted on something so unworthy as a horse. Frost's lively description of the horse and entire scene contrasts Moss's degrading and cruel one, representative of Frosts relaxed tones and the overwhelming frustration felt by Moss.

Both authors employ imagery and the connotations of words to establish the different emotions. Frost describes the environment: woods lovely, dark, and deep, and the frozen lake. In the background, the snow falls down softly, and the only noises are peaceful, that of a light wind and downy flake, and horse bells jingling merrily. After reading this, many imagine a peaceful scene, one which could easily be set during winter holidays (which also conjure feelings of great pleasure). On the other hand, Moss paints an entirely different picture of the landscape. In her poem, the girl is surrounded by an aura of emptiness- not welcome and serene like the former poem- but eerie and frightening. She views as the snow inters the grass, which for the readers results in many visualizing violent images of the snow relentlessly beating on the frail grass. Moss uses these morose images to establish her attitude towards the poem, while Frost's jovial illustrations reflect his serene attitude.

The Speakers of both poems experience different metaphorical journeys, and the tones of the authors on current issues in the poems significantly affect their views of the future. The work Stopping By Woods on a Snowy Evening" ends with the lines, "I have miles to go before I sleep, I have miles to go before I sleep. This suggests the Speaker still has things to accomplish in his life; yet, impacted by Frost's appreciative and joyous temperament, he believes the rest of the journey-the future- will also be something to be enjoyed, as beautiful as the woods

described in the beginning of the piece. While Frost's feelings of the present-day imply the future will be pleasurable, Moss's frustration continues. Moss reflects on society, believing there are, "miles to go, more than the distance from Africa to Andover, more than the distance from black to white before she sleeps with Jim". Moss's anger stemming from prejudice influences her to predict a bleak future; she believes that racism will still be a problem, as she has observed that diverse peoples seem unwilling to cooperate and tolerate each other. The overall meaning of "Stopping By Woods on a Snowy Evening", authored by an optimistic Robert Frost, is one should appreciate life- now and in the future; however, Thylias Moss's contrasting tone of anger and frustration expresses the challenges of a young African American, and implies unless drastic social measures are taken, intolerance will only continue.

# 1.4 SAT Worksheet 3C: Paragraph Improvements Practice Questions Passage 1(about privacy)

#### 1. Answer (D)

- (A) The shift to past tense is inappropriate. The passage is in the present.
- (B) The beginning clause is passive.
- (C) The gerund in the beginning makes it seem like we're all currently "thinking"
- (D) Corrects the point of view error by maintaining "we" as the subject
- (E) Point of view error unnecessarily shifts between "you" and "we"

#### 2. Answer (C)

These are all transition words. Sentences 2 and 3 point out quite a few things that come up when privacy is thought about. Sentence 4 implies that although a lot of things related to privacy do come up, there are still more things that we cannot imagine. The keyword there is "still," which is the transition word that should be used.

#### 3. Answer (B)



- (A) The problem here is pronoun reference. The word "this" does not refer to anything within the sentence.
- (B) Correctly indicates what "this" should refer to and transitions smoothly from the previous sentence.
- (C) Too abrupt and too simplistic a statement to really relate back to the previous sentence. The reader is left asking, "so what?"
- (D) Does not correct the pronoun reference error mentioned in (A).
- (E) Too wordy and the phrase "as an example" is disconnected as an example of what?

#### 4. Answer (A)

- (A) Correct. Best expresses the cause and effect relationship between the two sentences.
- (B) Run-on. "Therefore" is not a conjunction.
- (C) Starting the sentence with "with" is awkward and does not establish the desired cause and effect relationship clearly.
- (D) The cause and effect relationship is not made clear. Protecting patient information and facing liability are presented as almost two separate things.
- (E) Misuse of the word "liable."

#### 5. Answer (B)

The second paragraph deals with hospitals and how they deal with privacy issues. The paragraph is NOT about lawyers.

#### 6. Answer (E)

Sentence 11 talks about possible consequences and sentence 12 expands upon what those consequences might be. Those consequences for violating patient privacy are the "hypothetical result" that sentence 12 elaborates on.

#### Passage 2 (about Korean food)



#### 1. Answer (C)

Although other answer choices are grammatically correct, C is the most concise of these answer choices.

#### 2. Answer (C)

This sentence should go in between when ingredients were scare (and therefore, according to the sentence, they had to cook imitations) and when they were more readily available. This is sentence 4.

#### 3. Answer (D)

The original sentence contains a modifier error. Only answer choices B, C, and fix this. B contains an unclear pronoun, "it". C is incorrect because the clause at the beginning of the sentence does not make sense.

#### 4. Answer (B)

The original sentence contains a modifier error. Only answer choices B and C fix this. B is both grammatically correct and more concise than C.

#### 5. Answer (D)

"According to the past" is implied, given the tense of the word "signified".

#### 6. Answer (B)

Correct use of connectors. "and" is not the most logical connector between the two clauses.