

Ivy Global

# Jane Smith

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Ivy Global - Free Online SAT Test

Date: March 10, 2016



# Overview

**Composite Score: 1180**



## Reading and Writing Test: 660



## Math Test: 520



### Reading

- Information and Ideas - 75.68%
- Rhetoric - 69.23%
- Synthesis - 75.00%
- Words in Context - 88.89%
- Command of Evidence - 77.78%

### Math - No Calculator

- Heart of Algebra - 62.50%
- Passport to Advanced Math - 44.44%
- Additional Topics in Math - 66.67%

### Writing

- Expression of Ideas - 84.62%
- Standard English Conventions - 83.33%
- Words in Context - 100.00%
- Command of Evidence - 75.00%

### Math - Calculator

- Heart of Algebra - 60.00%
- Problem Solving and Data Analysis - 47.06%
- Passport to Advanced Math - 37.50%
- Additional Topics in Math - 33.33%

## Understanding Your Scores

Your composite score combines area scores in Math and Evidence-Based Reading and Writing. It does not include your essay score.

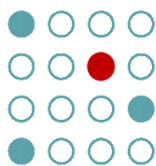
Your subscores are based on particular question types within each test section. These scores assess skills specific to the Reading test + Writing and Language test, Writing and Language test alone, and Math test alone.

Subscores Breakdown					
Subscore Area	Correct	Incorrect	Omitted	Total	Score (1-15)
Expression of Ideas	22	4	0	26	13
Standard English Conventions	15	3	0	18	13
Heart of Algebra	11	7	0	18	10
Problem Solving and Data Analysis	8	9	0	17	8
Passport to Advanced Math	7	10	0	17	7
Words in Context	15	1	0	16	14
Command of Evidence	13	4	0	17	12

Your cross-test score for the sections below are based on your performance on specific questions across the different tests relating to specific types of content. These scores assess skills shared across the Reading and Writing and Math sections.

Cross-Test Scores Breakdown					
Cross-Test Scores	Correct	Incorrect	Omitted	Total	Score (10-40)
Analysis in History/Social Studies	5	3	0	8	29
Analysis in Science	2	6	0	8	18

## Suggested Review



Look over any questions you answered incorrectly and try to solve them again. Did you just make some avoidable errors, or did you get questions wrong because you did not know how to solve them? You can find detailed answer explanations for these problems online.



Create a study plan and schedule for your SAT preparation. Make sure you leave enough time to review and practice each concept you'd like to improve as well as some time to refresh your memory on concepts you're already familiar with.



Go to [ivyglobal.com/study](https://ivyglobal.com/study) for detailed answer explanations.

# Reading & Writing: 660



















640-680

Section	Correct	Incorrect	Omitted	Total	Scaled Score
Reading	39	13	0	52	32
Writing	37	7	0	44	34

## Reading Section Breakdown

Subject Area	Correct	Incorrect	Omitted	Total
Information and Ideas	28	9	0	37
Rhetoric	9	4	0	13
Synthesis	3	1	0	4

Answers														
Question:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Your Answer:	C	A	C	C	B	B	D	A	C	D	C	D	A	C
Correct Answer:	C	A	C	C	B	B	D	A	C	D	C	B	A	C
Topic:	II	IC	IW	IA	II	IW	RP	RP	IC	RW	RP	RV	RP	IW
Difficulty:	4	2	3	3	4	4	5	5	2	2	3	2	3	1
Question:	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Your Answer:	B	D	B	D	A	C	B	B	C	C	A	C	A	B
Correct Answer:	B	D	B	D	A	C	B	B	D	B	A	C	D	C
Topic:	RW	IR	IC	IW	IE	IC	Q	RP	RE	IC	RP	IW	IE	IE
Difficulty:	2	3	2	1	4	3	4	3	3	3	2	1	4	3
Question:	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Your Answer:	D	B	D	D	B	B	A	D	D	B	B	B	C	C
Correct Answer:	D	B	B	B	D	C	A	D	D	B	B	B	A	C
Topic:	IC	IW	IA	RP	IW	RP	II	IC	II	IC	IW	IR	II*	II*
Difficulty:	4	2	5	3	3	4	5	3	4	3	2	4	5	4
Question:	43	44	45	46	47	48	49	50	51	52				
Your Answer:	D	D	B	C	B	C	C	B	C	A				
Correct Answer:	D	D	B	C	B	C	A	C	B	A				
Topic:	IT	IW	IR	IC	RP	IW	IE	IC	IA	Q				
Difficulty:	2	3	3	4	3	2	3	3	4	5				



























Reading Questions Breakdown					
	Category/Topic	Correct	Incorrect	Omitted	Total
<b>Information and Ideas</b>		28	9	0	37
Direct Information (IE)		1	3	0	4
Implied Information (II)		5	1	0	6
Similar Situation (IA)		1	2	0	3
Finding Evidence (IC)		8	2	0	10
Main Ideas (IT)		1	0	0	1
Describing Relationships (IR)		3	0	0	3
Vocabulary in Context (IW)		9	1	0	10
<b>Rhetoric</b>		9	4	0	13
Word Choice (RW)		2	0	0	2
Point of View (RV)		0	1	0	1
Purpose (RP)		7	2	0	9
Author's Evidence (RE)		0	1	0	1
<b>Synthesis</b>		3	1	0	4
Comparing Passages (M)		1	1	0	2
Graphics (Q)		2	0	0	2
<b>Words in Context</b>					
Words in Context (W)		8	1	0	9
<b>Command of Evidence</b>					
Command of Evidence (E)		7	2	0	9

## Writing Section Breakdown

	Subject Area	Correct	Incorrect	Omitted	Total
Expression of Ideas		22	4	0	26
Standard English Conventions		15	3	0	18
Words in Context		7	0	0	7
Command of Evidence		6	2	0	8

Answers														
Question:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Your Answer:	C	A	D	D	A	B	C	B	D	C	B	B	D	C
Correct Answer:	C	A	D	D	A	D	C	B	D	C	B	B	D	C
Topic:	OT	DP*	EP*	OT	SB	UL	ET	UPA	OL	EP*	DF*	EP*	SB	UF
Difficulty:	1	5	3	1	2	4	4	2	5	3	5	3	3	1
Question:	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Your Answer:	C	A	A	B	C	B	D	D	A	B	D	B	C	C
Correct Answer:	C	A	A	B	C	B	D	A	C	B	D	B	C	C
Topic:	UL	DP*	PL	DQ*	DF	UPA	UC*	OL	USV	ES	SS	SB	EC*	DF
Difficulty:	1	4	2	5	5	1	2	4	1	3	2	2	3	5
Question:	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Your Answer:	D	B	C	A	D	B	A	C	A	C	A	D	C	B
Correct Answer:	D	B	C	A	D	B	B	C	A	C	B	B	C	B
Topic:	DP*	PP	DS*	UC	OT	SP	DP*	EC*	SV	SS	SM	OT	ES	EP*
Difficulty:	5	1	4	1	3	1	4	3	1	2	3	2	2	2
Question:	43	44												
Your Answer:	A	C												
Correct Answer:	D	C												
Topic:	DQ*	OL												
Difficulty:	3	4												

\* Question 43 covers topics E and DQ.

Writing Questions Breakdown						
Category/Topic		Correct	Incorrect	Omitted	Total	
<b>Expression of Ideas</b>		22	4	0	26	
Main Idea (DP)		3	1	0	4	
Supporting Evidence (DS)		1	0	0	1	
Relevant Information (DF)		3	0	0	3	
Graphic Analysis (DQ)		1	1	0	2	
Logical Sentence Order (OL)		2	1	0	3	
Transitional Words and Sentences (OT)		3	1	0	4	
Precise Word Choices (EP)		4	0	0	4	
Concise Sentences (EC)		2	0	0	2	
Style and Tone (ET)		1	0	0	1	
Clear Sentences (ES)		2	0	0	2	
<b>Standard English Conventions</b>		15	3	0	18	
Making Whole Sentences and Avoiding Run-ons (SB)		3	0	0	3	
Joining Sentences with Conjunctions (SS)		2	0	0	2	
Matching Sentence Structures (SP)		1	0	0	1	
Where to Put Descriptive Phrases (SM)		0	1	0	1	
Matching Verbs (SV)		1	0	0	1	
Pronoun Agreement (UPA)		2	0	0	2	
Verb Agreement (USV)		0	1	0	1	
Confusing Words (UF)		1	0	0	1	
Comparing Correctly (UL)		1	1	0	2	
Appropriate Prepositions (UC)		2	0	0	2	
Making Possessives (PP)		1	0	0	1	
Punctuating a List (PL)		1	0	0	1	
<b>Words in Context</b>		7	0	0	7	
Words in Context (W)						
<b>Command of Evidence</b>		6	2	0	8	
Command of Evidence (E)						

# Math: 520



Section	Correct	Incorrect	Omitted	Total	Scaled Score
Calculator	18	20	0	38	52
No-Calculator	11	9	0	20	

## Calculator Section Breakdown


Subject Area	Correct	Incorrect	Omitted	Total
Heart of Algebra	6	4	0	10
Problem Solving and Data Analysis	8	9	0	17
Passport to Advanced Math	3	5	0	8
Additional Topics in Math	1	2	0	3

Answers														
Question:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Your Answer:	B	A	B	B	D	C	C	C	D	C	A	B	B	A
Correct Answer:	B	A	B	B	D	C	C	C	D	C	A	A	C	A
Topic:	H6	D1	D8	H1	D9	P5	H9	H5	H9	D9	D10	D2	P12	H2
Difficulty:	1	2	2	2	3	2	1	2	3	3	3	2	3	3
Question:	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Your Answer:	C	C	A	D	D	A	D	A	D	A	D	A	C	A
Correct Answer:	B	B	B	C	A	C	A	C	D	A	C	B	B	C
Topic:	H1	P5	H6	D8	H9	A7	P3	D3	D7	P5	D1	D2	H7	D7
Difficulty:	3	3	4	3	4	4	3	3	3	3	3	4	4	4
Question:	29	30	31	32	33	34	35	36	37	38				
Your Answer:	B	B	15	1.	3	50	5.5	12	50	66				
Correct Answer:	A	D	15	1.25...	3	0	6.5	12	50	1				
Topic:	A7	P12	D3	D1	P10	P8	D4	A4	D3	D9				
Difficulty:	4	5	2	3	4	4	3	4	3	5				





Math Questions Breakdown						
Category/Topic		Correct	Incorrect	Omitted	Total	
<b>Heart of Algebra</b>		11	7	0	18	
Linear Equations (H1)		1	1	0	2	
Linear Inequalities (H2)		3	0	0	3	
Linear Modelling (H3)		1	0	0	1	
Systems of Linear Equations (H5)		1	0	0	1	
One Variable System Using Algebra (H6)		2	2	0	4	
Two Variable System Using Algebra (H7)		0	3	0	3	
Algebraic-Graphical Connections (H9)		3	1	0	4	
<b>Problem Solving and Data Analysis</b>		8	9	0	17	
Ratios, Rates, Proportions, Scales (D1)		1	2	0	3	
Percentages (D2)		0	2	0	2	
Measurements (D3)		2	1	0	3	
Scatterplots (D4)		0	1	0	1	
Two-Way Tables (D7)		1	1	0	2	
Sample and Population Parameters (D8)		1	1	0	2	
Data Shape, Center, Spread (D9)		2	1	0	3	
Evaluating Reports (D10)		1	0	0	1	
<b>Passport to Advanced Math</b>		7	10	0	17	
Quadratic or Exponential Modelling (P1)		0	1	0	1	
Rational Exponent Expressions (P3)		0	2	0	2	
Equivalent Algebraic Expressions (P4)		1	1	0	2	
Solving Quadratic Equations (P5)		3	2	0	5	
Polynomial Arithmetic (P6)		1	0	0	1	
Solving Radicals and Rationals (P7)		0	1	0	1	
Linear-Quadratic Systems (P8)		0	1	0	1	
Interpreting Nonlinear Expressions (P10)		1	0	0	1	
Nonlinear Relationships in Algebra (P12)		1	2	0	3	
<b>Additional Topics in Math</b>		3	3	0	6	
Degrees and Radians (A4)		2	0	0	2	
Congruence and Similarity Theorems (A6)		0	1	0	1	
Trigonometric Ratios, Theorems (A7)		1	2	0	3	
<b>Analysis in History/Social Studies</b>		5	3	0	8	
History and Social Studies (AH)		5	3	0	8	

Math Questions Breakdown (Continued)					
Category/Topic		Correct	Incorrect	Omitted	Total
<b>Analysis in Science</b>		2	6	0	8
Science (AS)					

## Question Topics

The following tables list the types of questions that appear in every section of the test. Tables named "scores" include descriptions of both subscores and cross-test scores.

Reading Section		
Code	Description	Example
IE	<b>Direct Information:</b> Find information stated directly in the passage	According to the passage, which of the following claims is true about American scrap metal?
II	<b>Implied Information:</b> Find information stated indirectly in the passage	It can reasonably be inferred from the passage that the narrator ...
IA	<b>Similar Situation:</b> Identify a situation that is similar to one described in the passage	Which of the following situations is most analogous to the role of sharks presented in lines 31-36?
IC	<b>Finding Evidence:</b> Find lines in the passage that support your answer to a previous question	Which choice provides the best evidence for the answer to the previous question?
IT	<b>Main Ideas:</b> Identify the main ideas in a passage	The passage primarily focuses on which of the following characteristics of atomic warfare?
IS	<b>Summarizing:</b> Identify a summary for a part of the passage	Which of the following provides the most reasonable summary of the passage?
IR	<b>Describing Relationships:</b> Determine how two people or items discussed in a passage interact with one another	Based on the passage, which choice best describes the relationship between novice and expert writers?
IW	<b>Vocabulary in Context:</b> Choose an appropriate synonym for a word or phrase used in the passage	As used in line 74, "intact" most nearly means ...
RW	<b>Word Choice:</b> Determine how certain words influence the meaning of the text	The main rhetorical effect of lines 17-23 is to ...
RO	<b>Overall Structure:</b> Identify the overall structure of an entire passage	Which of the following best describes the passage?
RPW	<b>Internal Structure:</b> Determine how one part of the passage relates to the rest of the passage	The first paragraph introduces the passage by ...
RV	<b>Point of View:</b> Determine the author's point of view	The stance the author takes in the passage is best described as that of ...
RP	<b>Purpose:</b> Identify what a portion of a passage is trying to accomplish	The last two lines (76-77) primarily serve to ...
RC	<b>Finding Arguments:</b> Identify arguments and counterarguments made in a passage	In this speech, Roosevelt does which of the following to promote his administration?
RR	<b>Author's Reasoning:</b> Asses the reasoning used to make arguments in a passage	In lines 62-65, what is the most likely reason that the author describes why females may be more at risk during changes in community structure?
RE	<b>Author's Evidence:</b> Identify what evidence the author uses to support arguments	The author of Passage 1 supports his assertion that, despite some errors, genome sequencing is already accurate enough to be used by ...

## Reading Section (Continued)

Code	Description	Example
M	<b>Comparing Passages:</b> Compare or contrast information from two passages in a passage pair	Both Passage 1 and Passage 2 include...
Q	<b>Graphics:</b> Find information in a graphic or how it relates to a passage	The passage and table most strongly support which of the following conclusions?

## Reading Scores

Code	Description
W	<b>Words in Context:</b> Questions that require you to interpret or revise challenging vocabulary words in the context of the passage. Precise Word Choice questions always contribute to your Words in Context score, but so can many other question types if the question requires you to interpret a difficult word or use a common word in a challenging way.
E	<b>Command of Evidence:</b> Questions that require you to consider the use of evidence in the passage, including adding, revising, or reordering pieces of evidence. Main Idea, Support, Relevant Information, and Graphic Analysis questions will most commonly be counted towards Command of Evidence.
AH	<b>History and Social Studies:</b> All Expression of Ideas questions on Social Studies/History passages will contribute to your Social Studies/History score.
AS	<b>Science:</b> All Expression of Ideas questions on Science passages will contribute to your Science score.

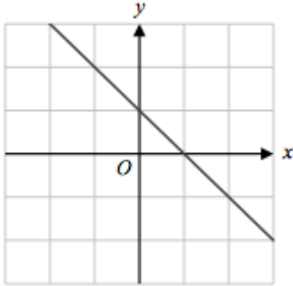
## Writing and Language Section

Code	Description	Example
DP	<b>Main Idea:</b> Asks about adding, revising, or deleting a main idea statement in the passage	Which choice most effectively conveys the main topic of the paragraph?
DS	<b>Supporting Evidence:</b> Asks about changing, inserting, or deleting supporting evidence for an idea	Which of the following sentences, inserted here, most effectively supports the claim made in the previous sentence?
DF	<b>Relevant Information:</b> Asks about whether information contributes to the main	Which of the following changes would most improve the focus of the passage?
DQ	<b>Graphic Analysis:</b> Asks about information presented in charts and graphs	Which of the following choices completes the sentence with accurate information from the graphic?
OL	<b>Logical Sentence Order:</b> Asks about reordering sentences or paragraphs to make the passage more logical	To make this paragraph most logical, sentence 4 should be placed...
OT	<b>Transitional Words and Sentences:</b> Asks about the best transitional words and phrases to connect sentences and paragraphs	<u>However, ancient</u> Greek philosophers held a great diversity of opinions, founding many schools of thought that have shaped the development of culture in the West and beyond.
EP	<b>Precise Word Choices:</b> Asks you to choose the vocabulary word that makes the most sense in context	In the Middle East, <u>aesthetic</u> ideals from Cynicism influenced early Christians, leading some to give up their possessions to live in poverty in the desert.
EC	<b>Concise Sentences:</b> Asks you to pick an option that eliminates empty phrases and repetitive words but not key information	Perhaps most impressively, al-Razi conducted one of history's earliest clinical trials to study <u>how effective the practice of bloodletting was</u> as a cure for disease.

Writing and Language Section (Continued)		
Code	Description	Example
ET	<b>Style and Tone:</b> Asks for you to pick the option that maintains the same style and tone as the rest of the passage	This education helps them <u>learn a lot of stuff about</u> biology and chemistry so that they can understand the human body and the effects that various nutrients can have on overall health.
ES	<b>Clear Sentences:</b> Asks for you to pick effective order and arrangement of words, and use a variety of sentence structures for specific goals	Which choice best combines the sentences at the underlined portion?
SB	<b>Making Whole Sentences and Avoiding Run-ons:</b> Asks for you to correct run-on sentences and sentence fragments by joining or dividing sentences and clauses, or changing the way they're joined or divided.	Typically, scientists modify plants by creating a ring of DNA called a plasmid, which holds the <u>desired genes, then they</u> insert this plasmid into plant cells.
SS	<b>Joining Sentences with Conjunctions:</b> Asks for you to correct errors with subordinating and coordinating conjunctions, and the kinds of clauses the make	Although the Fuji apple shares its name with the well-known Mt. Fuji, <u>but it is actually named</u> after Fujisaki, the town where researchers developed the hybrid.
SP	<b>Matching Sentence Structures:</b> Asks for you to make sure that different parts of a sentence or paragraph have the same structure when they need to	For instance, GM crops could outcompete wild plants, give rise to toxin-resistant pests, or <u>disrupting</u> an ecosystem's food chain by damaging insect populations.
SM	<b>Where to Put Descriptive Phrases:</b> Asks for you to place descriptive phrases next to the things they're supposed to describe	Teaching classes on dietetics to university students, <u>new dietitians are also trained by them.</u>
SV	<b>Matching Verbs:</b> Asks for you to make sure that verbs maintain the same form or an appropriate form throughout a sentence or paragraph	Using their wide range of knowledge and skills, these professionals ensure that their clients and patients eat nutritious foods and <u>living</u> lifestyles that will help them be fit and healthy.
SN	<b>Matching Nouns:</b> Asks you to recognize errors in the person -- "I" vs. "you" or "him" -- and number -- "they" vs. "he" - of a pronoun	Nora Roberts is one of the most prolific living Writers; <u>they</u> began writing in 1979, publishing over 200 romance novels to date.
UPC	<b>Clear Pronouns:</b> Asks you to substitute the correct noun for a pronoun when the pronoun is potentially unclear	Darwin and Wallace both independently arrived at similar theories, but today <u>he</u> is chiefly remembered as the author of theory of Evolution by Natural Selection. Wallace is remembered chiefly as a defender of Darwin's work.
UD	<b>Making Possessives:</b> Asks for you to select a word to show possession that agrees with the form of the word that identifies the owner	While Japanese consumers strongly prefer Japanese apples to American apples, <u>its</u> most popular variety—the Fuji apple—is actually a hybrid of two American varieties.
UPA	<b>Pronoun Agreement:</b> Asks for you to select the pronoun that agrees with the noun to which it refers	Even though there is a clear scientific consensus that food derived from GM crops is safe for human consumption, much of the general public fears that <u>it</u> might pose unknown health risks.
USV	<b>Verb Agreement:</b> Asks for you to select the verb that agrees with the form of the subject, the noun that is 'doing' the action of the verb	The history of science as it is taught to most Western students <u>are</u> tragically incomplete.
UN	<b>Noun Agreement:</b> Asks for you to identify cases in which a noun should be plural or singular, and is the opposite	There are hundreds of pieces of space debris orbiting Earth, and any one of them could be <u>dangerous projectiles.</u>

Writing and Language Section (Continued)		
Code	Description	Example
UF	<b>Confusing Words:</b> Asks you to select the correct choice from a pair of frequently confused words, like “their” and “they’re,” and usually to correct a small second error	The Ouroboros is an ancient symbol, which depicts a snake <u>eating its own tail</u> .
UL	<b>Comparing Correctly:</b> Asks you to correct sentences in which unlike objects are compared	While the amount in the U.S. Federal budget for defense is consistently greater than <u>education</u> , adding in state and local spending reveals a greater overall expenditure on education than defense.
UC	<b>Appropriate Prepositions:</b> Asks you to select the correct preposition or idiom to convey the intended meaning of a sentence	Had they not preserved ancient knowledge and <u>elaborated on</u> it with their own findings, scientific and technological development might be centuries behind where it is today.
PE	<b>Ending a Sentence:</b> Asks you to select the correct punctuation to end a sentence while conveying its intended meaning	Spending on recreation and luxuries isn’t necessarily waste; things that make us happy have value because they make us happy. However, we must ask ourselves an important question: “What is a reasonable level of spending on these budget <u>items!</u> ”
PW	<b>Punctuating a Sentence:</b> Asks you to correct various errors of punctuation that occur between clauses or items within a sentence	Cities are filled <u>with lights: streetlights, headlights</u> , neon signs, LED screens with flashing ads, spotlights shining against landmark buildings, and countless glowing windows and screens, all drowning out the relatively dim twinkle of the stars, which are all but invisible in city skies
PP	<b>Making Possessives:</b> Asks you to correctly create the possessive form of a noun or pronoun, and avoid placing apostrophes or the letter 's' incorrectly on non-possessive forms.	Cars are often singled out in conversations about carbon dioxide, but the largest <u>source’s</u> of carbon dioxide emissions in the U.S. are actually power plants.
PL	<b>Punctuating a List:</b> Asks you to correctly punctuate a list of items	One of the foremost applications of this technology is the creation of plants that are resistant to <u>certain pests, diseases, and herbicides</u> .
PC	<b>Extra Clauses:</b> Asks you to correct problems with various types of nonessential clauses that provide extra information in a sentence	The Persian mathematician <u>al-Khwarizmi who worked in the 9th century CE developed</u> new methods for solving linear and quadratic equations.
PU	<b>Unnecessary Punctuation:</b> Asks for you to remove unnecessary punctuation	The Stoics, unlike the Epicureans, believed that a <u>divine will they called</u> the logos influenced all events.

Writing and Language Scores	
Code	Description
W	<b>Words in Context:</b> Questions that require you to interpret or revise challenging vocabulary words in the context of the passage. Precise Word Choice questions always contribute to your Words in Context score, but so can many other question types if the question requires you to interpret a difficult word or use a common word in a challenging way.
E	<b>Command of Evidence:</b> Questions that require you to consider the use of evidence in the passage, including adding, revising, or reordering pieces of evidence. Main Idea, Support, Relevant Information, and Graphic Analysis questions will most commonly be counted towards Command of Evidence.
AH	<b>History and Social Studies:</b> All Expression of Ideas questions on Social Studies/History passages will contribute to your Social Studies/History score.
AS	<b>Science:</b> All Expression of Ideas questions on Science passages will contribute to your Science score.

Math Section		
Code	Description	Example
H1	<b>Linear Equations:</b> Create, solve, or interpret a linear expression or equation in one variable	If $4n + 8n = 36$ , what does $n$ equal in this equation?
H2	<b>Linear Inequalities:</b> Create, solve, or interpret linear inequalities in one variable	Which of the following represents the solution set to the inequality $2x + 1 \geq 9$ ?
H3	<b>Linear Modelling:</b> Build a linear function that models a linear relationship between two quantities	Carlos walks at a constant pace of 3 miles per 55 minutes. Build a linear function to model how far he walks in 35 minutes.
H4	<b>Systems of Linear Inequalities:</b> Create, solve, and interpret systems of linear inequalities in two variables	Solve for the values of $x$ that satisfy both inequalities: $7x \geq 21$ and $2x < 10$ .
H5	<b>Systems of Linear Equations:</b> Create, solve, and interpret systems of two linear equations in two variables	If $y = 5n + 6$ and $y = n - 2n - 4$ , for which value of $n$ are the equations above equivalent?
H6	<b>One Variable System Using Algebra:</b> Algebraically solve linear equations (or inequalities) in one variable	$x + 6 + 2x = 5x$ and $4x + 1 = 13$ . What is the value of $x$ ?
H7	<b>Two Variable System Using Algebra:</b> Algebraically solve systems of two linear equations in two variables	$x + y = 3$ and $2x - y = 12$ . What are the values for $x$ and $y$ ?
H8	<b>Linear Interpretation:</b> Interpret the variables and constants in expressions for linear functions within the context presented	$f(2) = 3$ and $f(-6) = -13$ . If $f(x)$ is a linear function, what is the value of $x$ if $f(x) = 0$ ?
H9	<b>Algebraic-Graphical Connections:</b> Understand connections between algebraic and graphical representations	 <p>A linear function is graphed above. What is the value of <math>a</math> at the point <math>(a, 3)</math> for this function?</p>
D1	<b>Ratios, Rates, Proportions, Scales:</b> Use ratios, rates, proportional relationships, and scale drawings to solve single- and multistep problems	If the ratio of A to B is 2:3 and the ratio of A to C is 5:6 what is CB?
D2	<b>Percentages:</b> Solve single- and multi-step problems involving percentages	U is 75% of T. If V is 5% of U, what is the value of V in terms of T?
D3	<b>Measurements:</b> Solve single- and multi-step problems involving measurement quantities, units, and unit conversion	An object measures 3 cm by 9 cm by 4 cm and weighs 54 grams. If another object made from the same material measures 6 cm by 2 cm by 3 cm, what would be the weight of the second object in terms of the first object?

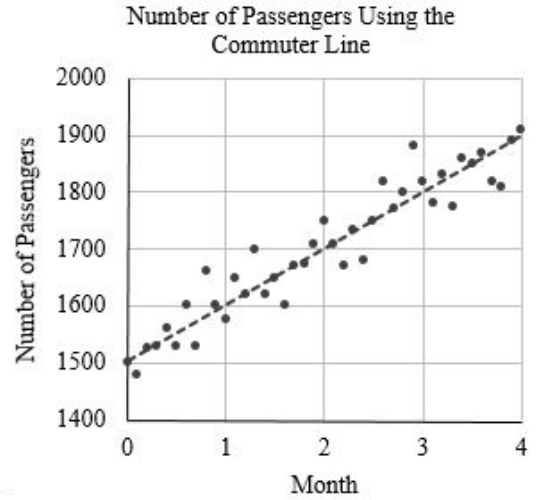


Math Section (Continued)

Code	Description	Example
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D4

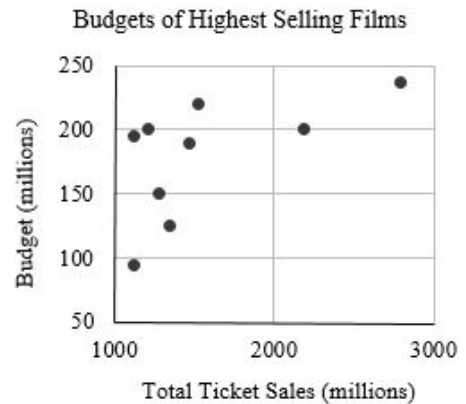
**Scatterplots:** Given a scatterplot, use linear, quadratic, or exponential models to describe how the variables are related



The graph above shows the number of passengers on a train line over 4 months. If  $m$  is the number of months, which of the following functions best represents the graph's line of best fit?

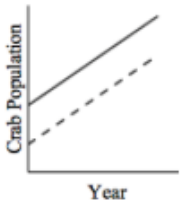
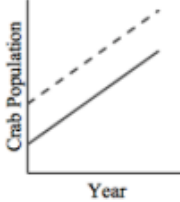
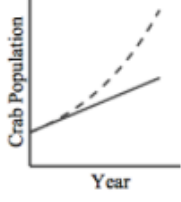
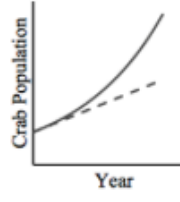
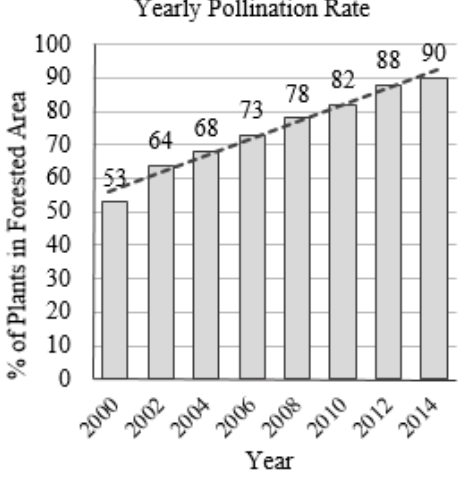
D5

**Investigating Graphs:** Use the relationship between two variables to investigate key features of the graph

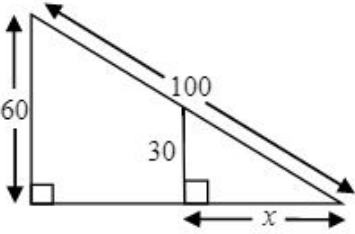
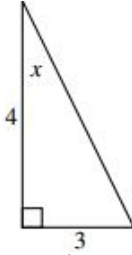


The total sales of films are compared to their total budgets in the graph above. What was the budget of the film with the median total ticket sales?

Math Section (Continued)

Code	Description	Example
D6	<p><b>Linear and Exponential Growth:</b> Compare linear growth with exponential growth</p>	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;"> <p>A)</p>  </div> <div style="text-align: center;"> <p>B)</p>  </div> <div style="text-align: center;"> <p>C)</p>  </div> <div style="text-align: center;"> <p>D)</p>  </div> </div> <p>Dungess crab and Horseshoe crab populations are observed and compared by marine researchers. Researchers notice that the Dungess population increases 10% each year, and the Horseshoe population increases by 100 each year. If the Dungess crab population is represented by the solid line, and the Horseshoe crab population is represented by the dotted line, which of the following graphs best represents Dungess crab and Horseshoe crab populations?</p>
D7	<p><b>Two-Way Tables:</b> Use two-way tables to summarize categorical data and relative frequencies, and calculate conditional probability</p>	<p>The chart above shows career preferences for students in a class. If two different students are randomly chosen, what is the probability they both want to enter finance?</p>
D8	<p><b>Sample and Population Parameters:</b> Make inferences about population parameters based on sample data</p>	<p>According to the sample data above, what is the total number of students who enrolled in psychology during the period from 2000 to 2002?</p>
D9	<p><b>Data Shape, Center, Spread:</b> Use statistics to investigate measures of center of data and analyze shape, center, and spread</p>	<div style="text-align: center;"> <p><b>Yearly Pollination Rate</b></p>  </div> <p>The graph above shows the pollination rate of plants in a forested area every two years. Based on the trend line, what is the average annual increase in the pollination rate?</p>

Math Section (Continued)		
Code	Description	Example
D10	<b>Evaluating Reports:</b> Evaluate reports to make inferences, justify conclusions, and determine appropriateness of data collection methods	The graph above shows Rebecca's running speeds during a 2 hour run. What is the total distance, in miles, that Rebecca ran during the first hour of her run?
P1	<b>Quadratic or Exponential Modelling:</b> Create a quadratic or exponential function	The table above gives values of the quadratic function $f$ for selected values of $x$ . Which of the following expressions defines $f(x)$ ?
P2	<b>Forms of Expressions:</b> Determine the most suitable form of an expression	Which of the following expressions is equal to $2x^2 + 11x + 15$ ?
P3	<b>Rational Exponent Expressions:</b> Create equivalent expressions involving rational exponents	Which of the following is equivalent to the expression $((x^2 - 1)(x - 1))/(x + 1)$ ?
P4	<b>Equivalent Algebraic Expressions:</b> Create an equivalent form of an algebraic expression	Which of the following is equal to $6x^2 - 11x - 7$ ?
P5	<b>Solving Quadratic Equations:</b> Solve a quadratic equation	What is the solution for $x$ in the quadratic equation $x^2 - 4x + 6$ ?
P6	<b>Polynomial Arithmetic:</b> Add, subtract, and multiply polynomial expressions	What is the sum of $x^2 + 8x + 3$ and $x^2 - 7x + 5$ ?
P7	<b>Solving Radicals and Rationals:</b> Solve an equation in one variable that contains radicals or contains the variable in the denominator of a fraction	If $x^2 = 0.1$ , what is the value of $x^{-4}$ ?
P8	<b>Linear-Quadratic Systems:</b> Solve a system of one linear equation and one quadratic equation	Solve the following system of equations: $y + 30 = x^2 + 3x$ and $y - 5x = 90$ .
P9	<b>Rewriting Rational Expressions:</b> Rewrite simple rational expressions	Rewrite $(2x^3 + 4x^2 - 6x)/(2x)$ .
P10	<b>Interpreting Nonlinear Expressions:</b> Interpret parts of nonlinear expressions in terms of their context	The function $f(x) = ax^2 + bx + c$ is graphed above. Which of the following must be positive?
P11	<b>Polynomial Zeros and Factors:</b> Understand the relationship between zeros and factors of polynomials	$x^2 + px + q = 0$ , If the only solution for $x$ in the equation above is 5, what is the value of $p + q$ ?
P12	<b>Nonlinear Relationships in Algebra:</b> Understand a nonlinear relationship between two variables	What are the $x$ and $y$ -intercepts of $y = 6x^2 - 19x - 36$ ?
P13	<b>Function Notation:</b> Use function notation, and interpret statements using function notation	$f(x) = 2x - 1$ , and $g(x)$ is a linear function that is perpendicular to $f(x)$ . If $(0, 4)$ is a point of $g(x)$ , at what point do $f(x)$ and $g(x)$ intersect?
P14	<b>Isolate and Identify a Quantity:</b> Use structure to isolate or identify a quantity of interest	If $m = 5k/3$ , what is $k$ in terms of $m$ ?

Math Section (Continued)		
Code	Description	Example
A1	<b>Volume:</b> Solve problems using volume formulas	What is the volume of the cone in the diagram above if the diameter of the base is 16?
A2	<b>Right Triangles:</b> Use trigonometric ratios and the Pythagorean theorem	If the perimeter of the above right triangle is 72, and two of the sides are labeled length $5x$ and $4x$ , what is the value of $x$ ?
A3	<b>Complex Numbers:</b> Solve problems involving complex numbers	What is the value of $i^8$ if $i = -12$ ?
A4	<b>Degrees and Radians:</b> Convert between degrees and radians and use radians to determine arc lengths; use trigonometric functions of radian measure	What is the arc length of the figure with a side length of 6 and an angle of 30 degrees?
A5	<b>Arcs, Chords, and Sectors:</b> Apply theorems about circles to find arc lengths, angle measures, chord lengths, and areas of sectors	What is the arc length of the figure above?
A6	<b>Congruence and Similarity Theorems:</b> Use concepts and theorems about congruence and similarity to solve problems about lines, angles, and triangles	 <p>What is the value of <math>x</math> in the figure above?</p>
A7	<b>Trigonometric Ratios, Theorems:</b> Use the relationship between similarity, right triangles, and trigonometric ratios; use the relationship between sine and cosine of complementary angles	 <p>In the figure above, what is the value of <math>\sin(x)</math>?</p>
A8	<b>Circle Equations:</b> Create or use an equation in two variables to solve a problem about a circle in the coordinate plane	If a sector of a circle with an angle of $60^\circ$ has an area of $24\pi$ , what is the radius of the circle?

Math Scores	
Code	Description
AH	<b>History and Social Studies:</b> All Expression of Ideas questions on Social Studies/History passages will contribute to your Social Studies/History score.
AS	<b>Science:</b> All Expression of Ideas questions on Science passages will contribute to your Science score.