PROJECT 217 • INITIAL STUDENT ONBOARDING ASSESSMENT

Grade 6 Diagnostic Baseline: Math & Reading

Student Name: _____ **Date:** _____

Assessor / RBT: _____ **Target Grade Level:** Grade 6 Baseline

Instructions for Student: *Complete all 50 questions to the best of your ability. Show your work in the space provided for math problems. Read all passages carefully before answering reading comprehension questions.*

SECTION 1: MATHEMATICS DIAGNOSTIC (Q1 – Q25)

Part A: Ratios, Proportions & Rates

1. A recipe uses 3 cups of flour for every 2 cups of sugar. What is the ratio of sugar to flour?

A) 3 : 2 B) 2 : 3

C) 3 : 5 D) 2 : 5

2. A car travels 180 miles in 3 hours at a constant speed. What is the unit rate in miles per hour?

A) 50 mph B) 55 mph

C) 60 mph D) 65 mph

3. If 4 notebooks cost $10.00, how much do 7 notebooks cost at the same rate?

A) $14.00 B) $17.50

C) $15.00 D) $20.00

4. What is 35% written as a fraction in simplest form?

A) 35/100 B) 7/20

C) 7/10 D) 3/5

5. In a class of 30 students, 60% are girls. How many students in the class are girls?

A) 12 B) 15

C) 18 D) 20

Part B: The Number System (Fractions, Decimals & Integers)

6. Evaluate: 3/4 ÷ 1/8

A) 3/32 B) 6

C) 8 D) 1/6

7. Calculate: 14.25 + 8.683

A) 22.933 B) 22.833

C) 22.933 D) 22.913

8. Calculate: 4.2 × 0.15

A) 0.63 B) 6.3

C) 0.063 D) 63.0

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9. What is the Greatest Common Factor (GCF) of 24 and 36?

A) 4
B) 6
C) 12
D) 72

10. What is the Least Common Multiple (LCM) of 6 and 8?

A) 12
B) 24
C) 48
D) 14

11. Which inequality correctly compares the two integers: -7 and -3?

A) -7 > -3
B) -7 < -3
C) -7 = -3
D) -3 < -7

12. What is the absolute value of -15? | -15 | = ?

A) -15
B) 0
C) 15
D) 1/15

13. Point A is located at (-4, 3) on a coordinate plane. In which quadrant is Point A located?

A) Quadrant I
B) Quadrant II
C) Quadrant III
D) Quadrant IV

Part C: Expressions & Equations

14. What is the value of 4^3?

A) 12
B) 16
C) 64
D) 81

15. Evaluate the expression: $2 \times (5 + 3)^2 - 10$

A) 118
B) 54
C) 126
D) 30

16. Which algebraic expression represents "8 less than 3 times a number x"?

A) 8 - 3x
B) 3x - 8
C) 3(x - 8)
D) 8x - 3

17. Simplify by combining like terms: 4x + 7 + 2x - 3

A) 6x + 4
B) 6x + 10
C) 10x
D) 2x + 4

18. Solve the equation for x: x + 14.5 = 22.8

A) x = 37.3
B) x = 8.3
C) x = 8.5
D) x = 9.3

19. Solve the equation for y: 5y = 45

A) y = 40
B) y = 9
C) y = 225
D) y = 8

20. Which value of x makes the inequality x + 5 > 12 TRUE?

A) 5
B) 6
C) 7
D) 8

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Part D: Geometry, Statistics & Probability

21. Find the area of a triangle with a base of 10 cm and a height of 6 cm. (Formula: A = ½ × b × h)

A) 60 cm^2
B) 30 cm^2
C) 16 cm^2
D) 20 cm^2

22. What is the volume of a rectangular prism with length = 5 in, width = 3 in, and height = 4 in?

A) 12 in^3
B) 47 in^3
C) 60 in^3
D) 94 in^3

23. Find the mean (average) of the dataset: 8, 12, 15, 9, 11.

A) 11
B) 55
C) 10.5
D) 12

24. What is the median of the following set of test scores: 72, 85, 88, 90, 94, 100?

A) 88
B) 89
C) 90
D) 86.5

25. What is the range of the dataset: 14, 28, 5, 39, 21?

A) 34
B) 39
C) 21
D) 28

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SECTION 2: READING & LANGUAGE ARTS DIAGNOSTIC (Q26 – Q50)

Passage 1: The Echoes of Whalewatch Cove

(1) Maya stood at the edge of the rocky precipice, watching the dense gray fog roll over the coastline. Her grandfather had always insisted that Whalewatch Cove held secrets, but Maya had previously dismissed his stories as mere local folklore. However, as the rhythmic crash of waves echoed against the granite cliffs, she noticed an unusual pattern in the water.

(2) A dark silhouette breached the surface—not a commercial ship or fishing vessel, but a magnificent humpback whale lifting its massive pectoral fin. Maya held her breath. The creature maneuvered through the narrow inlet with astonishing precision, swimming toward the shallow lagoon where warm freshwater streams met the sea. Remembering her grandfather's ocean journals, Maya realized this wasn't a random occurrence. The cove was a protected nursery, passed down through generations of marine life, just as the stewardship of this coastline had been passed down through her family.

Part A: Informational & Literary Comprehension (Passage 1)

26. What is the main idea of Passage 1?

A) A girl discovers her grandfather was lying about local history.

B) Maya witnesses a whale and recognizes the truth in her grandfather's words.

C) Fog on the coastline makes fishing dangerous for commercial vessels.

D) Humpback whales are an endangered species needing human help.

27. As used in paragraph 1, what does the word "precipice" most nearly mean?

A) A sandy beach

B) A steep cliff edge

C) A wooden dock

D) A deep valley

28. Which sentence best demonstrates a shift in Maya's perspective?

A) "Maya stood at the edge of the rocky precipice..."

B) "...Maya had previously dismissed his stories as mere local folklore."

C) "Maya realized this wasn't a random occurrence."

D) "Maya held her breath."

29. What can the reader infer about Maya's grandfather from paragraph 2?

A) He was a commercial sea captain.

B) He kept detailed observational notes about coastal marine life.

C) He built the coastal lighthouse.

D) He rarely talked about the ocean.

30. What is the tone of Passage 1?

A) Humorous and lighthearted

B) Observant and reverent

C) Anxious and frantic

D) Sarcastic and skeptical

Passage 2: The Invention of the Printing Press

(1) Prior to the mid-15th century, books in Europe were painstakingly copied by hand. Monks and scribes spent months, sometimes years, producing a single manuscript. Consequently, books were prohibitively expensive, accessible only to royalty, religious institutions, and the extremely wealthy.

(2) Around 1440, German goldsmith Johannes Gutenberg revolutionized information distribution by inventing the movable type printing press. By casting metal letter blocks that could be rearranged and reused, Gutenberg made book production remarkably fast and affordable. The widespread availability of printed texts democratized knowledge, fueled the Renaissance, and drastically elevated literacy rates across western civilization.

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Part B: Text Structure & Analysis (Passage 2)

31. Which text structure is primarily used in Passage 2?

A) Problem and Solution
B) Cause and Effect / Historical Chronology
C) Compare and Contrast
D) Spatial Order

32. What was the primary cause of books being extremely expensive before 1440?

A) Paper was rare and imported from distant countries.
B) Books had to be copied by hand, taking months or years.
C) Royalty placed high tariffs on text creation.
D) Printing presses were difficult to operate.

33. Based on paragraph 2, what does "democratized knowledge" mean?

A) Made knowledge available to ordinary people, not just elites.
B) Allowed citizens to vote on which books were published.
C) Restricted reading to government officials.
D) Forced every school child to write books.

34. Which claim is directly supported by evidence in Passage 2?

A) Gutenberg became the richest man in Germany.
B) The printing press led to an increase in European literacy rates.
C) Monks protested against movable type technology.
D) Hand-copied books were more accurate than printed ones.

35. Which word from paragraph 1 is a synonym for "forbiddenly" or "excessively"?

A) Painstakingly
B) Prohibitively
C) Accessible
D) Scribes

Part C: Grammar, Usage & Mechanics

36. Identify the sentence with correct subject-verb agreement:

A) Either the teacher or the students is going to lead.
B) The group of standard tests are on the table.
C) Neither the coach nor the players were ready for rain.
D) Each of the girls run five miles daily.

37. Which sentence uses commas correctly in a compound sentence?

A) We studied for three hours, but we still felt unprepared.
B) We studied for three hours but, we still felt unprepared.
C) We studied for three hours but we still, felt unprepared.
D) We studied, for three hours but we still felt unprepared.

38. Identify the pronoun that agrees in number with its antecedent: "Every student must submit ___ project on Monday."

A) their
B) his or her
C) system
D) ours

39. Which of the following is a complete sentence (not a fragment or run-on)?

A) Running through the dark forest in the middle of night.
B) Although the storm knocked out power for hours.
C) The thunder cracked loudly, so we quickly went indoors.
D) Dogs barking at cars passing by the driveway continuously.

40. What is the function of the underlined word? "The *swiftly* flowing river carried the canoe."

A) Adjective
B) Adverb
C) Noun
D) Preposition

41. Choose the sentence with proper capitalization:

A) Last tuesday, uncle robert visited yellowstone national park.
B) Last Tuesday, Uncle Robert visited Yellowstone National Park.
C) Last Tuesday, uncle Robert visited Yellowstone national park.
D) Last Tuesday, Uncle robert visited yellowstone National Park.

42. Identify the figurative language used: "The old floorboards groaned under his feet."

A) Metaphor
B) Simile
C) Personification
D) Hyperbole

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43. Which word in the following sentence is an adjective? "The ancient scroll contained mysterious symbols."

A) scroll
B) ancient
C) contained
D) symbols

Part D: Vocabulary & Sentence Structure Analysis

44. What does the Greek root "geo" mean in words like *geology* and *geography*?

A) Life
B) Earth
C) Water
D) Distance

45. What does the Latin root "aud" mean in words like *audible* and *audience*?

A) To hear
B) To see
C) To speak
D) To write

46. Determine the meaning of *benevolent* using context clues: "The benevolent donor provided funding for the new community library."

A) Wealthy but greedy
B) Kind and generous
C) Strict and demands quiet
D) Mysterious and suspicious

47. Which prefix added to *predictable* creates a word meaning "not able to be predicted"?

A) Dis-
B) Un-
C) Re-
D) Mis-

48. Identify the antonym for the word **fragile:**

A) Delicate
B) Sturdy
C) Brittle
D) Weak

49. Which word correctly completes the sentence? "The student made a _____ effort to study every night."

A) conscious
B) conscience
C) continuous
D) performative

50. Identify the simple subject in the following sentence: "The tall oak trees near the river lost their leaves."

A) tall
B) trees
C) river
D) leaves

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PROJECT 217 INSTRUCTOR ANSWER KEY & DIAGNOSTIC GUIDE

Scoring & Gap Analysis Protocol: Use this answer key to evaluate student onboarding baseline scores. Questions are aligned to specific standard clusters. Tag missed questions to target skill deficits during baseline intervention.

Q#	Ans	Skill / Topic Cluster	Q#	Ans	Skill / Topic Cluster
1	B	Ratio Relationships (6.RP.A.1)	**26**	B	Main Idea & Summary (RL.6.2)
2	C	Unit Rates (6.RP.A.2)	**27**	B	Vocabulary in Context (RL.6.4)
3	B	Proportional Reasoning (6.RP.A.3)	**28**	C	Analyzing Character Development (RL.6.3)
4	B	Percent to Fraction Conversion (6.RP.A.3c)	**29**	B	Inference & Text Evidence (RL.6.1)
5	C	Percent of a Quantity (6.RP.A.3c)	**30**	B	Author's Tone & Atmosphere (RL.6.4)
6	B	Fraction Division (6.NS.A.1)	**31**	B	Informational Text Structure (RI.6.5)
7	A	Decimal Addition Fluency (6.NS.B.3)	**32**	B	Cause and Effect Analysis (RI.6.3)
8	A	Decimal Multiplication Fluency (6.NS.B.3)	**33**	A	Domain-Specific Vocabulary (RI.6.4)
9	C	Greatest Common Factor (6.NS.B.4)	**34**	B	Evaluating Text Claims (RI.6.8)
10	B	Least Common Multiple (6.NS.B.4)	**35**	B	Contextual Synonym Analysis (RI.6.4)
11	B	Integer Comparison (6.NS.C.7)	**36**	C	Subject-Verb Agreement (L.6.1)
12	C	Absolute Value Concepts (6.NS.C.7c)	**37**	A	Compound Sentence Punctuation (L.6.2)
13	B	Coordinate Plane Quadrants (6.NS.C.6b)	**38**	B	Pronoun-Antecedent Agreement (L.6.1)
14	C	Exponents & Whole Number Powers (6.EE.A.1)	**39**	C	Sentence Fragments & Run-ons (L.6.1)
15	A	Order of Operations (6.EE.A.1)	**40**	B	Parts of Speech: Adverbs (L.6.1)
16	B	Algebraic Expression Writing (6.EE.A.2)	**41**	B	Capitalization Mechanics (L.6.2)
17	A	Combining Like Terms (6.EE.A.3)	**42**	C	Figurative Language: Personification (L.6.5)
18	B	One-Step Decimal Equations (6.EE.B.7)	**43**	B	Parts of Speech: Adjectives (L.6.1)
19	B	One-Step Multiplication Equations (6.EE.B.7)	**44**	B	Greek & Latin Roots: Geo (L.6.4b)
20	D	Inequality Solutions (6.EE.B.5)	**45**	A	Greek & Latin Roots: Aud (L.6.4b)
21	B	Area of Triangles (6.G.A.1)	**46**	B	Contextual Vocabulary (L.6.4a)
22	C	Volume of Rectangular Prisms (6.G.A.2)	**47**	B	Prefixes & Affixes (L.6.4b)
23	A	Mean Calculation (6.SP.B.5c)	**48**	B	Antonym Identification (L.6.5c)
24	B	Median Calculation (6.SP.B.5c)	**49**	A	Word Choice & Homophones (L.6.1)
25	A	Range & Data Spread (6.SP.B.5c)	**50**	B	Sentence Structure: Simple Subject (L.6.1)

Project 217 Assessment Interpretation Matrix:

- **45–50 Correct (90%+):** Mastery of Grade 6 prerequisites. Ready for accelerated enrichment.
- **35–44 Correct (70–88%):** Grade-level proficient. Minor targeted gaps to address in baseline sessions.
- **Below 35 Correct (<70%):** Significant foundational gaps identified. Initiate targeted skill-building probes using Project 217 systematic repetition protocols.

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