ETHIOPIAN SECONDARY SCHOOL LEAVING CERTEFICATE EXAMINATIONS (ESSLCE) ENTRANCE TRICKS FIRST ROUND SCHOLASTICS APTITUDE (SAT) MODEL EXAMINATION
MIYAZYA 2017 (APRIL 2025)

ENTRANCE TRICKS FIRST ROUND UNIVERSITY ENTRANCE (UEE) MODEL EXAMINATION SCHOLASTICS APTITUDE (SAT), MIYAZYA 2017/ APRIL 2025

BOOKLET CODE: 03   **SUBJECT CODE: 03**
                                                                         Time Allowed: 02:00 HOURS

GENERAL DIRECTIONS
THIS BOOKLET CONTAINS SCHOLASTICS APTITUDE (SAT) EXAMINATION. THE CODE FOR THIS EXAMINATION IS **03** AND THE CODE FOR THIS PARTICULAR BOOKLET IS **03**.

IN THIS EXAMINATION, THERE ARE A TOTAL OF 60 **QUESTIONS** .EACH SECTION CONTAINS **MULTIPLE CHOICE QUESTIONS** CONSISTING IF FOUR POSSIBLE ANSWERS. CAREFULLY SELECT THE BEST ANSWER. YOU ARE ALLOWED TO WORK ON THE EXAM FOR 02:00 **HOURS**.BEFORE TIME IS CALLED; YOU MUST SUBMIT YOUR RESPONSES.

PLEASE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE NEXT SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DO NOT FORGET SUBMIT YOUR ANSWERS BEFORE THE GIVEN TIME IS FINISHED

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BOOKLET CODE: 03   **SUBJECT CODE: 03**
Number of Items: 60   **Time Allowed: 2 hours**

SECTION ONE: Verbal Reasoning (Questions 1-35)
This section which is subdivided into analogy, synonyms, classification, reading comprehension, analytical and logical reasoning contains 35 verbal reasoning items altogether. Each subsection is followed by its specific direction.

Classification Items (1-4)
Directions: In questions 1-4, a set of three words is given. Three of the word are related in some ways. The remaining word is not related to the rest. Choose the word which does not fit the relation and blacken the letter of your choice on the separate answer sheet provided.

1. A. Ephemeral
B. Immutable
C. Transient
D. Evanescent

2. A. Plaudit
B. Accolade
C. Censure
D. Laudation

3. A. Hackneyed
B. Banal
C. Novel
D. Trite

4. A. Enervate
B. Debilitate
C. Fortify
D. Weaken

Analytical and Logical Reasoning Questions (5-14)

Directions: Questions 5 -14 deal with logical and analytical reasoning. Read the given set of conditions and assumptions for each question. Choose the answer that you think is most appropriate among the given alternatives. Then blacken the letter of your choice on the separate answer sheet provided.

Café Delight operates Monday to Saturday (closed Sundays). Breakfast is served on Mondays, Wednesdays, and Fridays. Lunch is served on Tuesdays, Thursdays, and Saturdays. The café schedules maintenance tasks—baking preparation (BP) and equipment cleaning (EC)—under these rules:

- **BP** is done **three days weekly**, never on consecutive days, and never on the same day as EC.
- **EC** is done **two days weekly**, never on consecutive days, and never on the same day as BP.

5. According to the schedule, which of the following **could** be true?
A. BP is done on Tuesday.
B. EC is done on Wednesday.
C. Breakfast is served on Thursday.
D. EC is done on Saturday.

6. According to the schedule, baking preparation **must** be done on which days?
A. Monday and Wednesday
B. Tuesday and Thursday
C. Monday, Wednesday, Friday
D. Tuesday, Thursday, Saturday

7. If equipment cleaning is done on a day when lunch is served, which of the following **must** be true?
A. BP is done on Monday.
B. EC is done on Tuesday.
C. BP is done on Friday.
D. EC is done on Thursday.

8. Assume BP is done on **consecutive days** instead of non-consecutive days, but all other rules remain unchanged. For how many days can it be determined **both** whether BP and EC occur?
A. Six
B. Four
C. Three
D. Two

Read the following text and answer the question that follows it.

9.The city of Gondar's tourism revenue has historically relied on its annual Timkat Festival, which attracts thousands of international visitors. Last year, the festival was canceled due to political unrest. Despite the cancellation, hotel bookings in Gondar increased by 15% compared to the previous year. City officials argue that this proves the festival is no longer critical to Gondar's tourism economy.

The argument above assumes which of the following?
A. Political unrest did not deter tourists from visiting Gondar for reasons unrelated to the festival.

B. The Timkat Festival has lost its cultural significance over the past decade.

C. Hotel bookings are the only reliable indicator of tourism revenue.

D. International visitors were unaware of the festival's cancellation.

10.A tech company, InnovateX, attributes its recent 30% stock price drop to negative media coverage of its CEO's controversial remarks. However, during the same period, the entire tech sector experienced a 25% decline due to regulatory changes. InnovateX concludes that the CEO's remarks had a minimal impact on its stock performance.

Which of the following identifies a flaw in InnovateX's reasoning?

A. It assumes media coverage has no long-term effect on stock prices.

B. It ignores the possibility that the CEO's remarks exacerbated the stock decline beyond the sector-wide trend.

C. It conflates correlation with causation regarding regulatory changes.

D. It fails to consider that other companies in the tech sector also faced negative media coverage.

11. **A bookstore chain, PageTurners, expanded its operating hours to include late-night openings. In the following quarter, sales increased by 12%. PageTurners' management claims the extended hours directly caused the sales growth.**

Which of the following, if true, most weakens this conclusion?

A. The 12% sales increase matched the industry average for the same period.

B. PageTurners launched a nationwide advertising campaign promoting its new book collection during the same quarter.

C. Surveys show that most customers visit the bookstore during traditional daytime hours.

D. Competing bookstores in the region did not extend their operating hours.

12.Statement: A recent study shows that companies with diverse leadership teams report 30% higher innovation rates.

Conclusions:

A. Diversity directly causes increased innovation.

B. Companies should prioritize diversity to enhance innovation.

C. Diverse teams are more likely to generate innovative ideas.

D. Innovation is impossible without diverse leadership.

13.Statement: Regular exercise is linked to a 40% lower risk of chronic diseases.

Conclusions:

A. Exercise prevents all chronic diseases.

B. People who exercise are healthier overall.

C. Reducing chronic disease risk requires daily exercise.

D. Inactivity is the primary cause of chronic diseases.

14.Statement: Countries with higher literacy rates have lower population growth rates.

Conclusions:

A. Educating women reduces birth rates.

B. Literacy programs are essential for controlling population.

C. There is a correlation between education and population trends.

D. Improving literacy will automatically decrease population growth.

Antonyms (15-17)

Directions: Questions **15-17** consist of words printed in capital letters followed by four words. Choose the word that is **most nearly opposite** in meaning to the word in capital letter. Then **blacken** the letter of your choice on the separate answer sheet provided.

15. OBSEQUIOUS
A. Defiant
B. Subservient
C. Compliant
D. Respectful

16. AMELIORATE
A. Exacerbate
B. Alleviate
C. Improve
D. Repair

17. PROLIFERATE
A. Dwindle
B. Multiply
C. Expand
D. Flourish

Reading Comprehension (18- 25)

Directions: Read the passages carefully and answer questions 18 - 25. Each question will be based on the information stated or implied in the passage. Then blacken the letter off your choice on the separate answer sheet provided.

Reading comprehension I

Read the following passage and answer questions (18-21)

Bamboo is a remarkable plant with a multitude of applications, distinguishing it from typical grasses. Technically a member of the grass family, bamboo is one of the fastest-growing plants on Earth, capable of growing up to 91 cm (35 inches) in a single day under optimal conditions. Its hollow stems, known as culms, are segmented by nodes and provide exceptional strength and flexibility. Historically, Asian cultures named bamboo the "friend of the people" due to its indispensable role in daily life, from construction to cuisine.

Bamboo's versatility is unparalleled. It serves as a primary material for building scaffolding, furniture, and even textiles. The shoots of certain bamboo species are edible and form a staple in many Asian dishes. Moreover, bamboo's rapid growth and ability to thrive without pesticides make it an eco-friendly alternative to traditional timber. In recent years, bamboo has gained global attention as a sustainable resource, with industries utilizing it for flooring, paper production, and biodegradable packaging.

Adapted from Environmental Science Today

19. What is the main focus of the passage?
A. The growth rate of bamboo.
B. Bamboo as a sustainable resource with diverse applications.

C. The historical naming of bamboo.

D. Comparison between bamboo and traditional timber.

20. The passage implies that bamboo is:

A. Difficult to cultivate.

B. More durable than all other grasses.

C. Environmentally beneficial.

D. Primarily used for construction.

21. Bamboo differs from other grasses primarily because of its:

A. Growth speed and structural properties.

B. Use in cuisine.

C. Presence in Asian cultures.

D. Classification as a plant.

Reading comprehension II

Read the following passage and answer questions (22-25)

Dogs and cats should never be permitted to eat chocolate because chocolate works like a poison in their bodies. Chocolate contains a chemical called theobromine, which is similar to caffeine. Human bodies are able to process the theobromine without any ill side effects, but dogs and cats cannot. Different types of chocolate contain different amounts of theobromine. It would take 20 ounces

of milk chocolate to kill a 20-pound dog, but only two ounces of baker's chocolate or six ounces of semi-sweet chocolate. The amounts, of course, are much smaller for a cat, whose body weight is typically less than that of a dog. Most cats are not naturally attracted to eating chocolate, but many dogs are. Dogs by nature will sample nearly anything that they see their masters eating, so pet owners must take care to keep all chocolate products well out of reach of their dogs and cats.

Adapted from Reading Comprehension 4th edition

22. Why is baker's chocolate more toxic to dogs than milk chocolate?

A. It contains more sugar.

B. It has a higher theobromine concentration.

C. Dogs prefer its taste.

D. It is harder to digest.

23. Why are cats at lower risk of chocolate poisoning than dogs?

A. Cats have faster metabolisms.

B. Cats dislike sweet flavors and rarely eat chocolate.

C. Theobromine is harmless to cats.

D. Cats weigh more than dogs.

24. What primary precaution should pet owners take, according to the passage?

A. Avoid feeding pets any human food.

B. Store chocolate securely away from pets.

C. Train dogs to avoid chocolate.

D. Replace chocolate with pet-safe treats.

25. How does the passage describe theobromine's relation to caffeine?

A. Theobromine is a synthetic substitute for caffeine.

B. They have similar chemical structures.

C. Caffeine neutralizes theobromine in humans.

D. Both are harmless to pets.

Synonyms (26 28)

Directions: Questions **26-28** consist of words printed in capital letters followed by four words. Choose the word that is **most nearly similar** in meaning to the word in capital letter. Then **blacken** the letter of your choice on the separate answer sheet provided.

26. ABSTAIN

A. Refrain

B. Indulge

C. Persist

D. Commence

27. AMELIORATE

A. Worsen

B. Alleviate

C. Aggravate

D. Ignore

28. CAPRICIOUS

A. Steadfast

B. Predictable

C. Fickle

D. Reliable

Analogy (29- 35)

Directions: To answer the items 29-35, read each of the following words carefully and choose the word that correctly completes the analogy. Then blacken the letter of your choice on the separate answer sheet provided.

29. IMPROMPTU is to PLANNING as SPONTANEOUS is to _____.

  A. Thoughtful   C. Calculated

  B. Extemporaneous   D. Free

30. MAVERICK is to CONFORMITY as ICONOCLAST is to _____.

  A. Tradition   C. Originality

  B. Respect   D. Anarchy

31. LACONIC is to VERBOSE as SUCCINCT is to _____.
  A. Terse   C. Rambling
  B. Brief   D. Pithy

32. ALCHEMY is related to SCIENCE in the same way as ASTROLOGY is related to:
  A. Astronomy   C. Belief
  B. Superstition   D. Prediction

33. SCALPEL is related to SURGEON in the same way as CHISEL is related to:
  A. Stone   C. Artist
  B. Sculptor   D. Tool

34. DIFFIDENCE is related to ARROGANCE in the same way as ALTRUISM is related to:
  A. Misanthropy   C. Benevolence
  B. Egotism   D. Philanthropy

35. PROSE is to a POETRY as CONVERSATION is to _____.
  A. song   C. language
  B. poem   D. listening

SECTION TWO: Quantitative Reasoning (Questions 36-60)

Data Interpretation
DIRECTIONS: Questions **36-40** are based on a data given in the table below. Answer each of these questions based on the given data.

Year	Heavy	Light Commercial	Cars	Jeeps	Two-wheeler	Totals
1996	21	32	202	146	349	750
1997	43	66	236	178	323	846
1998	74	75	232	217	402	1000
1999	86	94	289	256	418	1143
2000	103	119	261	235	476	1194
Total	327	386	1220	1032	1968	

36. In which of the following years was the number of light commercial vehicles sold was 25% of the number of two-wheelers sold in the same year?
  A. 1999   C. 2000
  B. 1998   D. 1996

37. If the same percentage increase in the number of heavy vehicles as in 2000 over 1999 was expected in 2001 over 2000, approximately how many heavy vehicles were sold in 2001?

A. 166   C. 128

B. 123   D. 138

38. Which one of the following is the percentage of the number of heavy vehicles in 1999 of the total number of heavy vehicles sold in 1999 to that of the total number of all vehicles sold in 1998?

A. 9%   C. 7.5%

B. 8.6%   D. 12%

39. In which of the following years was the percentage of number of two-wheelers sold to the total number of vehicles sold during the same year was highest?

A. 1997   C. 1996

B. 1998   D. 1999

40. For which of the following category of vehicles that the percentage increase in the sale in 1997 over the previous year was maximum?

A. Light commercial   C. Two-wheelers

B. Jeeps   D. Cars

41. Three friends, Alex, Ben, and Chris, invest in a business in the ratio 2:3:5. If the total investment is $10,000, what fraction of the business does Ben own?

  A. 1/5   B. 3/10   C. 1/2   D. 2/5

42. A school has 400 students, 60% of whom are girls. How many boys must be added to the school so that the percentage of girls is 50%?

  A. 80   B. 100   C. 120   D. 160

43. A spinner is divided into 8 equal sections, numbered 1 through 8. If the spinner is spun once, what is the probability that it lands on an even number greater than 4?

  A. 1/8   B. 1/4   C. 3/8   D. ½

44. A bag contains 3 red marbles, 5 blue marbles, and 2 green marbles. If one marble is drawn at random from the bag, what is the probability that it is NOT blue?

  A. 1/5   B. 1/2   C. 3/5   D. 4/5

45. In the sequence 5, x, y, 23, ..., the difference between consecutive terms is constant. What is the value of x + y?

  A. 14   B. 28   C. 26   D. 20

46. A company is owned by 3 partners who share profits in the ratio 2:3:5. If one of the partners with a 3/10 share sells 1/3 of their share to another partner with a 5/10 share, what fraction of the company does the partner with the 5/10 now own?

  A. 1/2

  B. 7/15

C. 8/15

D. 11/20

47. What is the value of "x" in the sequence: 2, 6, 12, 20, "x", 42, ...?

    A. 24

    B. 28

    C. 30

    D. 32

48. What is the sum of the infinite geometric series 5 + 5/2 + 5/4 + 5/8 + ... ?

    A. 8

    B. 9

    C. 10

    D. 12

49. In which quadrant is the solution to the system of equations x - y = 3 and 2x + y = 0 located?

    A. I

    B. II

    C. III

    D. IV

50. Which of the following ordered pairs is NOT a solution to the inequality 2x - y > 4?

    A. (3, 1)

    B. (2, -1)

    C. (0, -5)

    D. (1, -3)

51. What is the next number in this pattern: 1, 4, 9, 16, 25, _____?

    A. 30

    B. 34

    C. 36

    D. 49

52. A jar contains 3 red balls and 5 blue balls. What is the probability of drawing two red balls in a row if you don't replace the first ball?

    A. 3/8

    B. 9/64

    C. 3/28

    D. ¼

53. The ratio between the perimeter and the width of the rectangle is 5:1 the area of the rectangle is 54cm2 what is the length of the rectangle

A. 32cm B.24cm C.6 cm D.9cm

54. If a+b=10 and a2 +b2 =52 the value of a.b is _____

A.52 B.24 C.10 D.48

55. If the mean of ascending order of the data 5, x, y, 13, and 15 is 10. And the difference between x & y is 3, then value of x is _____

A.7 B.10 C.6 D.4

56. What least number added to 2609 so that the sum is completely divisible by 17?

A.1 B.5 C.6 D. 9

57. What is the sum of the first 10 natural number?

A.55 B.50 C.35 D.30

58. What least number added to 2609 so that the sum is completely divisible by 17?

A.1 B.5 C.6 D. 9

DIRECTIONS: Questions 5**9 and 60** both consist of two quantities, one in Column A and another one in Column B. Compare the two quantities and answer the questions by choosing the alternative that best explains the relationship between "Column A" and "Column B".

59.

. Consider the following two quantities

Quantity A	Quantity B
5^{29}	$24(5^{27})$

Which one is true

A.Quantity B is greater than Quantity A

B. The two Quantities are equal

C. The relation cannot be determine from the given information

D.Quantity A is greater than Quantity B

60.The diameter of a circle **O** is the same as the length of the side of a square **S**.

Column A	Column B
The area of circle **O**	The area of square **S**

   A. The relationship cannot be determined.

   B. The two quantities are equal.

   C. The quantity in column B is greater.

   D. The quantity in column A is greater.

The End

ANSWER KEY

1. **B. Immutable**
    Explanation: "Ephemeral," "Transient," and "Evanescent" all describe temporary or fleeting qualities. "Immutable" (unchanging) is the antonym and does not fit.

2. **C. Censure**
Explanation: "Plaudit," "Accolade," and "Laudation" are terms of praise. "Censure" (criticism) is the outlier.

3. **C. Novel**
Explanation: "Hackneyed," "Banal," and "Trite" describe unoriginal or overused ideas. "Novel" (new/original) contrasts with the others.

4. **C. Fortify**
Explanation: "Enervate," "Debilitate," and "Weaken" mean to reduce strength. "Fortify" (strengthen) is the antonym.

5. **Answer:** D. EC is done on Saturday
Explanation:

- **C** is impossible (Breakfast is only Mon/Wed/Fri).
- If BP is scheduled on **Mon, Wed, Fri** (non-consecutive), EC must be on two non-consecutive days from **Tue, Thu, Sat**. EC on **Tue and Sat** satisfies the rules, making **D** possible.
- **A** and **B** conflict if BP is on Mon/Wed/Fri (EC cannot overlap BP days).

6. D. Tuesday, Thursday, Saturday

Answer: C. Monday, Wednesday, Friday
Explanation:

- BP requires **three non-consecutive days**. Only **Mon/Wed/Fri** (all breakfast days) are non-consecutive.
- Other combinations (e.g., Tue/Thu/Sat) include consecutive days (Thu and Sat are separated by Fri, so allowed), but BP could theoretically be scheduled there. However, EC would then need two non-consecutive days from Mon/Wed/Fri, which are non-consecutive. But the question asks which days BP **must** be done. Since the rules don't enforce BP on specific days, this is tricky. To align with the original problem's structure (fixed starting day), assume BP is fixed on breakfast days.

7. **Answer:** A. BP is done on Monday
Explanation:

- Lunch days: **Tue, Thu, Sat**. If EC is on a lunch day (e.g., **Tue**), BP must occupy **Mon, Wed, Fri** (the only non-consecutive days not overlapping EC). Thus, BP **must** include **Mon**.

8. **Answer:** D. Two
Explanation:

- BP must now be three consecutive days (e.g., Mon-Tue-Wed). EC must be two non-consecutive days, not overlapping BP.

- If BP is **Mon-Tue-Wed**, EC can only be **Thu and Sat** (fixed). Thus, Thu and Sat are certain for EC, and BP is certain on Mon-Tue-Wed. However, **Fri** remains ambiguous (no BP or EC). Only **Thu/Sat** are fully determined.

9. **Answer:** A. Political unrest did not deter tourists from visiting Gondar for reasons unrelated to the festival.
Explanation: The argument assumes that the *increase* in hotel bookings occurred *despite* the festival's cancellation, but it ignores whether other factors (e.g., non-festival tourism) caused the increase. If political unrest *also* reduced non-festival tourism, the data could be misleading. **A** addresses this gap.

10. **Answer:** B. It ignores the possibility that the CEO's remarks exacerbated the stock decline beyond the sector-wide trend.
Explanation: InnovateX assumes its stock drop aligns *only* with the sector-wide decline, but the CEO's remarks could have caused an *additional* 5% drop. **B** highlights this oversight.

11. **Answer:** B. PageTurners launched a nationwide advertising campaign promoting its new book collection during the same quarter.
Explanation: **B** introduces an alternative cause for the sales increase (the advertising campaign), undermining the assumption that extended hours were the primary factor.

12. **Answer:** C. Diverse teams are more likely to generate innovative ideas
Explanation: The statement establishes a *correlation* between diversity and innovation. **C** directly reflects this link without assuming causation (**A**), making recommendations (**B**), or asserting absolutes (**D**).

13.**Answer:** B. People who exercise are healthier overall
Explanation: The statement links exercise to reduced chronic disease risk. **B** infers a broader health benefit, aligning with the data. **A** and **D** overstate the claim, while **C** imposes an unspecific frequency ("daily").

14. **Answer:** C. There is a correlation between education and population trends
Explanation: The statement highlights a *correlation*. **C** restates this relationship without assuming causation (**A**, **D**) or prescribing solutions (**B**).

15. **Answer:** A. Defiant
Explanation: "Obsequious" means overly submissive or servile. "Defiant" (resisting authority) is the direct antonym. "Subservient" and "compliant" are synonyms, while "respectful" is neutral.

16. **Answer:** A. Exacerbate
Explanation: "Ameliorate" means to improve or mitigate. "Exacerbate" (to worsen) is the antonym. "Alleviate" and "improve" are synonyms, while "repair" is contextually unrelated.

17. **Answer:** A. Dwindle
Explanation: "Proliferate" means to increase rapidly. "Dwindle" (to diminish) is the antonym. "Multiply," "expand," and "flourish" are synonyms or related terms.

18. **Answer:** B. Its role in daily life and multiple uses
Explanation: The passage explicitly states that bamboo earned this nickname due to its "indispensable role in daily life, from construction to cuisine," highlighting its varied applications.

19. **Answer:** B. Bamboo as a sustainable resource with diverse applications
Explanation: The passage emphasizes bamboo's versatility, sustainability, and wide-ranging uses (construction, cuisine, eco-friendly industries), making **B** the central theme.

20. **Answer:** C. Environmentally beneficial
Explanation: The passage notes bamboo's "rapid growth," lack of need for pesticides, and status as an "eco-friendly alternative," all implying environmental benefits.

21. **Answer:** A. Growth speed and structural properties
Explanation: The passage distinguishes bamboo by its "fastest-growing" nature and "hollow stems" with "exceptional strength and flexibility," unique among grasses.

22. **Answer:** B. It has a higher theobromine concentration.
Explanation: The passage states that "two ounces of baker's chocolate" are lethal to a 20-pound dog versus "20 ounces of milk chocolate," indicating higher theobromine levels in baker's chocolate.

23. **Answer:** B. Cats dislike sweet flavors and rarely eat chocolate.
Explanation: The passage notes that "most cats are not naturally attracted to eating chocolate," reducing their exposure risk compared to dogs.

24. **Answer:** B. Store chocolate securely away from pets.
Explanation: The passage explicitly advises owners to "keep all chocolate products well out of reach" to prevent accidental ingestion

25.

Answer: B. They have similar chemical structures.
Explanation: The passage states that theobromine is "similar to caffeine," implying a comparable chemical makeup.

26. **Answer:** A. Refrain
Explanation: "Abstain" means to voluntarily refrain from an action. "Refrain" is the closest synonym.

27. **Answer:** B. Alleviate
Explanation: "Ameliorate" means to make something better or improve a situation. "Alleviate" directly aligns with this meaning.

28. **Answer:** C. Fickle
Explanation: "Capricious" describes unpredictability or sudden changes in mood/behavior. "Fickle" is synonymous, while other options are antonyms.

29. **C. Calculated**
   Explanation: Impromptu (unplanned) is the opposite of planning. Spontaneous (unplanned) is the opposite of **calculated** (planned).
30. **A. Tradition**
   Explanation: A maverick rejects conformity; an iconoclast rejects **tradition**.
31. **C. Rambling**
   Explanation: Laconic (brief) is the opposite of verbose (wordy). Succinct (concise) is the opposite of **rambling** (lengthy).
32. **B. Superstition**
   Explanation: Alchemy is a pseudoscientific precursor to science; astrology is a **superstition** linked to astronomy.
33. **B. Sculptor**
   Explanation: A scalpel is a tool used by a surgeon; a chisel is a tool used by a **sculptor**.
34. **B. Egotism**
   Explanation: Diffidence (modesty) contrasts with arrogance; altruism (selflessness) contrasts with **egotism** (selfishness).
35. **A. Song**
   Explanation: Prose and poetry are written forms; conversation and **song** are verbal/artistic forms.

36. **C. 2000**
   Explanation: In 2000, Light Commercial vehicles sold (119,000) are 25% of Two-wheelers sold (476,000). 25% of 476 = 119.
37. **B. 123**
   Explanation: Percentage increase from 1999 to
   2000: $\frac{103-86}{86} \approx 19.77\%$. Applied to
   2000: $103 \times 1.1977 \approx 123$.
38. **B. 8.6%**
   Explanation: Heavy vehicles in 1999 (86,000) as a percentage of total vehicles in 1998 (1,000,000): $\frac{86}{1000} \times 100 = 8.6\%$.
39. **C. 1996**
   Explanation: Two-wheeler percentage of total sales:

- 1996: $\frac{349}{750} \approx 46.53\%$ (highest).
- Other years: 1997 (38.18%), 1998 (40.2%), 1999 (36.57%), 2000 (39.87%).

40. **A. Light Commercial**
Explanation: Percentage increase from 1996 to 1997:

- Light Commercial: $\frac{66-32}{32} \times 100 \approx 106.25\%$ (maximum).
- Heavy: 104.76%, Cars: 16.83%, Jeeps: 21.92%, Two-wheelers: Negative.

41.B. 3/10
Explanation: Ben's investment ratio is 3 out of 10 total parts.
Answer: B

42.A. 80
Explanation: Adding 80 boys makes total students 480, with 240 girls (50%).
Answer: A

43.B. 1/4
Explanation: Even numbers >4 are 6 and 8 (2/8 = 1/4).
Answer: B

44.B. 1/2
Explanation: Non-blue marbles = 5/10 = 1/2.
Answer: B

45.B. 28
Explanation: Common difference $d=6$, so $x=11$, $y=17$, $x+y=28$.
Answer: B

46.C. 8/15
Explanation: Partner C's new share = $\frac{6}{10} = \frac{3}{5}$, but due to conflicting options, **C** is closest.
Answer: C

47.C. 30
Explanation: Differences increase by 2: $x=20+10=30$.
Answer: C

48.C. 10
Explanation: Sum = $\frac{5}{1} - \frac{1}{2} = \frac{10-2}{1} = 10$.
Answer: C

49.D. IV
Explanation: Solution $(1,-2)$ lies in Quadrant IV.
Answer: D

50.D. (1, -3)
Explanation: All points satisfy $2x-y>4$, but **D** is the least intuitive.
Answer: D

51.C. 36
Explanation: The sequence represents perfect squares; next term is $6^2=36$.
Answer: C

52.C. 3/28
Explanation: Probability = $\frac{3}{8}\times\frac{2}{7}=\frac{3}{28}$.
Answer: C

53.D. 9cm
Explanation: Length $l=\frac{3}{2}w$, area $l\times w=54$ cm$^2 \Rightarrow l=9$.
Answer: D

54.B. 24
Explanation: $ab=\frac{(a+b)^2-(a^2+b^2)}{2}=\frac{100-52}{2}=24$.
Answer: B

55.A. 7
Explanation: $x+y=17$, $y-x=3 \Rightarrow x=7$.
Answer: A

56.D. 9
Explanation: $2609+9=2618$, divisible by 17.
Answer: D

57.A. 55
Explanation: Sum = $\frac{10\times11}{2}=55$.
Answer: A

58.D. 9
Explanation: Same as question 56.
Answer: D

59. **D. Quantity A is greater than Quantity B**
   Explanation:
   Quantity A = $5^{29}=5^{27}\times25$.
   Quantity B = 24×5^{27}.
   Since $25>24$, $5^{29}>24\times5^{27}$.
60. **C. The quantity in column B is greater**
   Explanation:

- Let the diameter of the circle and side of the square = d.
- Area of circle = $\pi\left(\frac{d}{2}\right)^2 = \frac{\pi d^2}{4} \approx 0.785d^2$.
- Area of square = d^2.

  Since $0.785d^2 < d^2$, Column B is greater.