CADET COLLEGE PREP

Cadet College Petaro Entry Test — Original Sample Paper (Class 8)

50 MCQs · 1 mark each · Time allowed: 60 minutes · No calculator

Original practice material authored from Petaro's published five-section entry pattern. Not an official paper of Cadet College Petaro and not endorsed by the college — its own official model papers live at its New Entry portal (newentry.ccpetaro.edu.pk/).

Name: _____ Date: _____ Score: _____ / 50

MATHEMATICS — 10 QUESTIONS

1. The smallest number that both 9 and 12 divide exactly is:

(A) 36 **(B)** 3
(C) 108 **(D)** 72

2. 3/5 of a tank holds 45 litres. The full tank holds:

(A) 60 litres **(B)** 75 litres
(C) 27 litres **(D)** 90 litres

3. Applying first a 10% rise and then a 10% cut to Rs 500 gives a final price of:

(A) Rs 500 exactly **(B)** Rs 505
(C) Rs 495 **(D)** Rs 550

4. A rope 84 m long is cut in the ratio 4 : 3. The shorter piece measures:

(A) 16 m **(B)** 48 m
(C) 12 m **(D)** 36 m

5. The average of five boys' marks is 72. A sixth boy joins and the average rises to 74. His marks are:

(A) 84 **(B)** 82
(C) 76 **(D)** 74

6. Two ropes of 63 m and 84 m are cut into pieces of equal length, with no rope left over. The greatest possible piece length is:

(A) 7 m **(B)** 21 m
(C) 12 m **(D)** 9 m

7. If $5(x - 2) = 3x + 6$, then x equals:

(A) 6 **(B)** 4
(C) 8 **(D)** 2

8. One angle of a triangle is 95° and another is 40°. The third angle is:

(A) 25° **(B)** 35°
(C) 55° **(D)** 45°

9. A square field of perimeter 96 m has an area of:

(A) 576 m² **(B)** 529 m²
(C) 9216 m² **(D)** 384 m²

10. A bus covers 120 km in 2 hours, then 180 km in 3 hours. Its average speed for the whole journey is:

(A) 65 km/h **(B)** 60 km/h
(C) 50 km/h **(D)** 75 km/h

© ACMA — All rights reserved. Do not copy or redistribute.

11. Choose the correct form: By next Monday, we ____ the whole chapter.

(A) will finish
(B) will have finished
(C) have finished
(D) would finish

12. The students apologized ____ the teacher for being late.

(A) with
(B) for
(C) to
(D) at

13. Change into the passive: 'The gardener waters the plants.' → The plants ____ by the gardener.

(A) are watering
(B) is watered
(C) are being watered
(D) are watered

14. If you heat ice, it ____ into water.

(A) turns
(B) turned
(C) would turn
(D) will turning

15. Choose the word nearest in meaning to 'abundant':

(A) scarce
(B) plentiful
(C) expensive
(D) empty

16. Choose the opposite of 'temporary':

(A) brief
(B) short-lived
(C) permanent
(D) urgent

17. 'To bury the hatchet' means to:

(A) to hide a secret
(B) to dig a hole
(C) to lose a tool
(D) to end a quarrel

18. Ten kilometres ____ not a long distance for a trained runner.

(A) is
(B) are
(C) were
(D) have been

19. Which sentence uses the possessive apostrophe correctly?

(A) The boys bags were confiscated
(B) The boys' bags were confiscated.
(C) The boys bag's were confiscated.
(D) The boy's bags were confiscated.

20. In the sentence 'The lake lay placid under the moonlight', the word 'placid' describes:

(A) a deep lake
(B) a frozen surface
(C) a calm surface
(D) a crowded shore

© ACMA — All rights reserved. Do not copy or redistribute.

GENERAL SCIENCE — 10 QUESTIONS

21. The unit of work is the:

(A) newton
(B) watt
(C) joule
(D) kilogram

22. A plane mirror forms an image that is:

(A) real and inverted
(B) virtual and diminished
(C) real and enlarged
(D) virtual and of the same size

23. In a circuit, the flow of electric charge is called:

(A) current
(B) resistance
(C) voltage
(D) power

24. Salt dissolved in water can be recovered by:

(A) filtration
(B) evaporation
(C) decantation
(D) sieving

25. Condensation of steam on a cold window is the change:

(A) solid → gas
(B) liquid → gas
(C) gas → liquid
(D) liquid → solid

26. The part of the body that filters waste from the blood is the:

(A) liver
(B) pancreas
(C) lungs
(D) kidneys

27. Most nutrient absorption in the digestive system takes place in the:

(A) small intestine
(B) stomach
(C) large intestine
(D) mouth

28. Roots absorb water from the soil mainly by:

(A) evaporation
(B) osmosis
(C) condensation
(D) gravity

29. The transfer of heat along a metal spoon left in hot soup happens by:

(A) convection
(B) radiation
(C) conduction
(D) insulation

30. Which of these is an exothermic process?

(A) melting ice
(B) boiling water
(C) evaporating water
(D) burning paper

© ACMA — All rights reserved. Do not copy or redistribute.

31. کہانی کی خالص جمع ہے:

(A) کہانیے
(B) کہانیوں
(C) کہانیاں
(D) کہانیاں

32. 'درد' کا مترادف ہے:

(A) تکلیف
(B) خوشی
(C) شفائی
(D) دعا

33. 'شکر' کا متضاد ہے:

(A) حمد
(B) نا شُکری
(C) صبر
(D) عبادت

34. محاورے 'پانی پانی ہونا' کا مطلب ہے:

(A) بہت سچا ہونا
(B) پُروقار ہونا
(C) شدید شرمندہ ہونا
(D) لاپرواہ ہونا

35. محاورے 'دال نہ گلنا' کا مطلب ہے:

(A) کھانا پکانا
(B) جھوٹ بولنا
(C) بہت غریب ہونا
(D) کام نہ بننا

36. Ramzan کے روزے کس پیلر کی تکمیل ہیں:

(A) Sawm
(B) Salat
(C) Zakat
(D) Hajj

37. The pillar of Zakat teaches Muslims to:

(A) fast in Shawwal
(B) give a set share to the needy
(C) pray the Tahajjud
(D) recite the whole Quran aloud

38. The Quran was revealed over a period of approximately:

(A) 10 years
(B) 13 years
(C) 23 years
(D) 40 years

39. The Prophet ﷺ's title known as 'Ameen' praised his:

(A) courage in battle
(B) eloquence in speeches
(C) skill as a rider
(D) honesty in trade

40. The Battle of Uhud was fought near:

(A) Madinah
(B) Ta'if
(C) Makkah
(D) Khyber

© ACMA — All rights reserved. Do not copy or redistribute.

41. Which number continues the series 3, 6, 12, 24, ___?

(A) 30
(B) 48
(C) 36
(D) 46

42. Which number continues the series 2, 5, 10, 17, 26, ___?

(A) 35
(B) 38
(C) 37
(D) 34

43. Which does not belong: square, triangle, circle, cube?

(A) square
(B) triangle
(C) circle
(D) cube

44. Thermometer is to temperature as barometer is to ___.

(A) pressure
(B) thunder
(C) height
(D) rainbow

45. Ship is to sailor as aeroplane is to ___.

(A) passenger
(B) pilot
(C) engineer
(D) conductor

46. If CAMPUS is coded DBNQVT, what is the code for EXAM?

(A) EYBN
(B) FXBN
(C) FYBN
(D) FYCM

47. Which is the odd one out: mango, potato, carrot, radish?

(A) radish
(B) potato
(C) carrot
(D) mango

48. A clock shows 3:00. What is the angle between its hands?

(A) 90°
(B) 60°
(C) 45°
(D) 120°

49. How many triangles are in a rectangle cut by both diagonals?

(A) 4
(B) 8
(C) 6
(D) 10

50. Which number continues the series 64, 32, 16, 8, ___?

(A) 6
(B) 2
(C) 4
(D) 0

© ACMA — All rights reserved. Do not copy or redistribute.

ANSWER KEY

Every answer carries its method — read the explanation even for answers you got right.

1. A — "Divides exactly" means a number that is a multiple of BOTH; the smallest such is the LCM. 9 = 3^2, 12 = $2^2 \cdot 3$, so LCM = $2^2 \cdot 3^2$ = 36. (3 isn't a multiple of 9 at all, and 72 and 108 are common multiples — but not the smallest.)

2. B — If 3/5 is 45, then 1/5 is 45 ÷ 3 = 15, and the whole tank is 15 × 5 = 75 litres. Direct check: (3/5) × 75 = 45 ✓.

3. C — The rise and the cut don't cancel because the second 10% is taken on a different base: 500 × 1.1 = 550, then 550 × 0.9 = 495. Net change −1% — a classic two-step pattern.

4. D — Total parts = 4 + 3 = 7, so one part = 84 ÷ 7 = 12 m and the shorter piece = 3 × 12 = 36 m. (12 m is one part, not the piece — a half-finished ratio.)

5. A — Five boys hold 5 × 72 = 360 marks; six boys hold 6 × 74 = 444. The newcomer brought 444 − 360 = 84 marks.

6. B — "Greatest possible equal pieces" asks for the HCF: 63 = $3^2 \cdot 7$, 84 = $2^2 \cdot 3 \cdot 7$, common = 3·7 = 21 m. Check: 63 ÷ 21 = 3 and 84 ÷ 21 = 4 pieces exactly.

7. C — Multiply out: 5x − 10 = 3x + 6. Move terms: 2x = 16, so x = 8. Verify in the original: 5(6) = 30 and 3(8) + 6 = 30 ✓.

8. D — The three angles total 180°, so the third = 180 − 95 − 40 = 45°. (35° is the difference of the two given angles — not a triangle rule, just a slip.)

9. A — Perimeter → side first: 96 ÷ 4 = 24 m. Area = side² = 24^2 = 576 m². (9216 = 96^2 is the classic trap of squaring the perimeter; 384 m is again the perimeter.)

10. B — Average speed = total distance ÷ total time = (120 + 180) ÷ (2 + 3) = 300 ÷ 5 = 60 km/h. (Averaging the two speeds 60 and 60 happens to agree here, but the rule is totals over totals — it would NOT agree if the halves were unequal.)

11. B — "By + a future point" asks for the future perfect: will have + past participle — the tense of "already done by then".

12. C — Apologize TO a person FOR an offence. Two prepositions, two jobs — swapping them (or using "with") is the standard trap.

13. D — A present-simple active becomes the simple passive: am/is/are + past participle. "The plants" is plural subject, so "are watered"; "being" adds a progressive the original never had.

14. A — A true scientific fact takes the zero conditional: present in both halves — "If you heat ice, it turns into water." "Would turn" belongs to imaginary, not factual, conditions.

15. B — Abundant means existing in large quantity — plentiful. 'Scarce' is its opposite, and the other two don't speak of quantity at all.

16. C — Temporary means lasting only a short time; 'permanent' is the direct opposite. 'Brief' and 'short-lived' are synonyms of 'temporary' disguised as distractors.

17. D — The phrase comes from a peace custom of laying one's weapons in the ground — so it means to make peace and end a quarrel.

18. A — A distance treated as one amount takes a singular verb: "ten kilometres IS not a long distance". Plural-looking subjects that name a single measure stay singular.

19. B — More than one boy owning their bags = plural possessive: apostrophe AFTER the plural s (boys'). 'Boys bags' has no apostrophe; 'boy's bags' would mean one boy's multiple bags.

20. C — Placid means calm, still, unruffled — the sense a lake has when nothing disturbs its surface. Depth, frost and crowds are facts the word itself never states.

21. C — Work = force × distance, measured in joules (J). Newtons measure force and watts measure power — the trap pair in every units question.

22. D — Every plane-mirror image is virtual (light does not actually pass through it), the same size, and left-right reversed. Real images come from optics like lenses that converge light to a point.

© ACMA — All rights reserved. Do not copy or redistribute.

23. A — Current is charge in motion, measured in amperes. 'Voltage' pushes the charge, 'resistance' restricts it, 'power' is the rate of energy use — each names a different role.

24. B — Evaporation leaves the solid behind as the water leaves as vapour — the standard recovery for dissolved solids. Filtration and sieving can't take a dissolved substance out (it passes through with the water).

25. C — Condensation reverses evaporation: the gas cools and settles into liquid form. Solid→gas is sublimation; liquid→solid is freezing.

26. D — The kidneys continuously strain the blood and pass the waste out as urine. The lungs remove carbon DIOXIDE, the liver processes chemicals, the pancreas manages digestion sugars — different jobs.

27. A — The small intestine's folded, micro-villae-lined walls are the body's absorptive surface; the stomach digests but doesn't absorb nutrients at scale, and the large intestine mainly absorbs water.

28. B — Osmosis is water diffusing across a membrane from where it is more concentrated to less — exactly the gradient root cells set up relative to soil water.

29. C — Conduction is heat travelling PARTICLE to particle through a solid — the soup heats the spoon's first particles and the vibration walks up the handle. Convection needs a moving fluid; radiation works across empty space.

30. D — Exothermic processes RELEASE heat: burning paper gives flame — the hallmark of combustion. Melting, boiling and evaporation are endothermic: they take heat in, which is why water cools the surface it evaporates from.

31. D — 'کہانی' مؤنث لفظ ہے۔ مؤنث الفاظ کی خالص جمع عموماً 'یاں' کے اضافے سے بنتی ہے۔ 'کہانیوں' اضافی جمع ہے (جیسے: کہانیوں میں)، اور 'کہانیان' نادر صورت ہے۔'

32. A — 'درد' کا مطلب تکلیف ہے، جیسے 'دردِ دل'۔ 'خوشی' اس کا متضاد ہے، اور 'شفائی' اور 'دعا' بے تعلق آپشن ہیں۔'

33. B — 'شکر' کا مطلب تشکر ہے، اس کا براہِ راست متضاد 'نا شُکری' ہے۔ 'صبر' ایک الگ خوبی ہے جس کا شکر سے متضاد رشتہ نہیں۔'

34. C — یہ محاورہ انتہا کی شرمندگی کا اظہار ہے — جیسے کسی کی حقیقت آشکار ہو جائے اور وہ ذلیل ہو جائے۔

35. D — اس محاورے کا مطلب ہے کوشش ناکام رہ جانا — طرح طرح کی کوشش کے باوجود کوئی کام نہ بننا۔

36. A — Fasting in Ramzan is the pillar called Sawm — 'to abstain'. The five pillars name five duties: Salat (prayer), Sawm (fasting), Zakat (alms), Hajj (pilgrimage) and the Kalima (faith).

37. B — Zakat — 'purification' — is the duty of giving a fixed share of saved wealth to those who need it, purifying the remaining wealth and its owner alike.

38. C — The revelation ran through the whole prophetic mission: roughly 13 years in Makkah and about 10 in Madinah — about 23 years in all. (13 and 10 are the two halves; neither is the whole.)

39. D — Before prophethood the Makkans called him Al-Ameen — the trustworthy one — for his known honesty, notably in the caravan trade he managed for Khadija رضی اللہ عنہا.

40. A — Uhud is a mountain just NORTH of Madinah; the battle in 3 AH took place there against the Quraysh. Khyber is a later campaign (7 AH), and Makkah/Ta'if are well south of Madinah.

41. B — Each term doubles the one before: 3 → 6 → 12 → 24 → 48. (30 and 36 are guesses from an adding-steps pattern, and 46 slips a digit — run the doubling once more on your answer before you circle it.

42. C — The gaps grow by 2 as they walk: +3, +5, +7, +9, next +11 → 26 + 11 = 37. Equivalently each term is $n^2 + 1$ ($1^2+1=2$, $2^2+1=5$ … $6^2+1=37$).

43. D — The first three are flat (two-dimensional) figures; a cube is solid (three-dimensional) — the only item from a different dimension of shape.

44. A — A thermometer measures temperature; a barometer measures ATMOSPHERIC PRESSURE. Height is an altimeter's job; the other two are things the meter reads indirectly at best.

45. B — The sailor PROFESSIONALLY drives the ship; the pilot professionally drives the plane. A passenger rides; an engineer builds or maintains.

46. C — Check the given pair first: C→D, A→B, M→N, P→Q, U→V, S→T — every letter moves ONE step forward. Apply the same rule to EXAM: E→F, X→Y, A→B, M→N, giving FYBN. The distractor that shifts only the first three letters stumbles at the last — verify the rule on the example, then apply it to every letter.

© ACMA — All rights reserved. Do not copy or redistribute.

47. D — The potato, carrot and radish are all underground vegetables (roots or tubers); the mango grows on a tree and is a fruit by its family. The list tempts by all being "foods we eat" — the oddity lives below ground.

48. A — The dial is a full circle of 360° split by 12 hour-marks, so each hour-gap is 30°. At 3:00 the hands are 3 gaps apart: 3 × 30° = 90°.

49. B — Draw it: the two diagonals cross at the centre and make 4 small triangles. Joining any two adjacent smalls makes 4 larger triangles (the four "halves" of the rectangle). Nothing larger combines three smalls. 4 + 4 = 8 — the classic panic answer 16 double-counts.

50. C — Each term is halved: 64 → 32 → 16 → 8 → 4. (Halving, not subtracting: the gaps shrink 32, 16, 8 — the difference halving is the halving signature.)

© Cadet College Prep — free practice material. Anyone may print or share this paper for study use unchanged. The practice engine carries every question here with more like it: cadetcollegeprep.com · Pattern basis: Mathematics, English, General Science, Urdu-Islamiat, Intelligence — the five subject areas Petaro's admission process quotes publicly, at the Class 7/8 level.

© ACMA — All rights reserved. Do not copy or redistribute.