Year 7 NAPLAN-style numeracy practice test

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Name: _____ Date: _____

Do questions 1 to 5 without a calculator. You can use a calculator for the rest. Suggested time: about 30 minutes.

Non-calculator (Questions 1-5)

Question 1

At Bankstown Public School, 25% of the 320 students walk to school. How many students walk to school?

(A) 80

(B) 125

(C) 100

(D) 60

Question 2

Calculate 3 + 4 × 5 - 2.

Answer: _____

Question 3

A triangular garden bed has a base of 8 m and a perpendicular height of 5 m. What is the area of the garden bed?

(A) 20 m^2

(B) 13 m^2

(C) 80 m^2

(D) 40 m^2

Question 4

A triangle has two angles of 47° and 65°. What is the size of the third angle in degrees?

Answer: _____

Question 5

Five friends scored the following points in a trivia game: 12, 8, 15, 10, and 5. What is the mean score?

(A) 12

(B) 8

(C) 10

(D) 9

Calculator allowed (Questions 6-20)

Question 6

A bag contains 240 marbles. Three-eighths of the marbles are blue. How many marbles are blue?

Answer: _____

Question 7

The first four terms of a number pattern are 5, 9, 13, 17, … Which rule describes this pattern?

(A) Start at 9, subtract 4 each time

(B) Start at 5, multiply by 4 each time

(C) Start at 5, add 5 each time

(D) Start at 5, add 4 each time

Question 8

A storage box is 60 cm long, 40 cm wide and 30 cm tall. What is the volume of the box?

(A) 5400 cm^3

(B) 7200 cm^3

(C) 72000 cm^3

(D) 2600 cm^3

Question 9

Point A is at (2, 5) and point B is at (2, -3) on the Cartesian plane. What is the distance between point A and point B?

(A) 8 units

(B) 6 units

(C) 10 units

(D) 2 units

Question 10

At a swimming carnival in Brisbane, the ratio of Year 7 students to Year 8 students is 3 : 5. There are 120 Year 8 students at the carnival. How many Year 7 students are there?

Answer: _____

Question 11

Which of the following is a perfect square number?

(A) 90

(B) 81

(C) 54

(D) 72

Question 12

The formula for the perimeter of a rectangle is P = 2(l + w), where l is the length and w is the width. A rectangular netball court has a length of 30.5 m and a width of 15.25 m. What is the perimeter of the court in metres?

Answer: _____

Question 13

A bag contains 5 red marbles, 3 blue marbles and 2 green marbles. One marble is picked at random. What is the probability that it is blue?

(A) 3/10

(B) ⅕

(C) 3/7

(D) ⅓

Question 14

A parallelogram-shaped sign has a base of 14 m and a perpendicular height of 6 m. What is the area of the sign in square metres?

Answer: _____

Question 15

Layla says that 91 is a prime number because it is odd and does not end in 5. Is she correct, and why?

(A) Yes, because 91 has no even factors

(B) No, because 91 is divisible by 7

(C) Yes, because 91 cannot be divided by 2 or 3

(D) No, because 91 is divisible by 9

Question 16

Solve for x: $x/4 + 7 = 13$

Answer: _____

Question 17

Calculate $-3 \times (4 - 9) + 2^2$.

(A) -19

(B) 19

(C) 11

(D) -11

Question 18

Three angles meet at a point on a straight line. Two of the angles are 63° and 48°. What is the size of the third angle in degrees?

Answer: _____

Question 19

A group of seven athletes recorded the following distances (in metres) thrown in a shot put event: 9.4, 11.2, 8.7, 13.5, 10.1, 9.8, 12.0. What is the median distance?

(A) 11.2 m

(B) 10.7 m

(C) 9.8 m

(D) 10.1 m

Question 20

A fish tank is 80 cm long, 35 cm wide and 40 cm tall. Water fills the tank to a height of 30 cm. What is the volume of water in the tank in litres? (1 litre = 1000 cm^3)

(A) 112 L

(B) 72 L

(C) 96 L

(D) 84 L

Year 7 NAPLAN-style numeracy: answers and worked solutions

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Question 1: (A) 80

25% means one quarter, so divide 320 by 4.

320 ÷ 4 = 80

Answer: 80

Question 2

Multiplication is done before addition and subtraction.

4 × 5 = 20

3 + 20 - 2 = 21

Answer: 21

Question 3: (A) 20 m²

Use the formula: Area = ½ × base × height

Area = ½ × 8 × 5 = ½ × 40 = 20

Answer: 20 m²

Question 4

Angles in a triangle add up to 180°.

47 + 65 = 112

180 - 112 = 68

Answer: 68°

Question 5: (C) 10

Add all the scores: 12 + 8 + 15 + 10 + 5 = 50

Divide by the number of scores: 50 ÷ 5 = 10

Answer: 10

Question 6

Find ⅜ of 240.

240 ÷ 8 = 30

30 × 3 = 90

Answer: 90

Question 7: (D) Start at 5, add 4 each time

Check the difference between consecutive terms: 9 - 5 = 4, 13 - 9 = 4, 17 - 13 = 4. The pattern starts at 5 and increases by 4 each time.

Answer: Start at 5, add 4 each time

Question 8: (C) 72000 cm^3

Volume of a rectangular prism = l × w × h.

V = 60 × 40 × 30

= 2400 × 30 = 72,000 cm^3

Answer: 72000 cm^3

Question 9: (A) 8 units

Both points have the same x-coordinate, so the distance is the difference in y-coordinates.

5 - (-3) = 5 + 3 = 8 units

Answer: 8 units

Question 10

If 5 parts = 120 students, then 1 part = 120 ÷ 5 = 24 students.

Year 7 students = 3 × 24 = 72

Answer: 72

Question 11: (B) 81

A perfect square is the result of multiplying a whole number by itself. Check each option: √(54) ≈ 7.3, √(72) ≈ 8.5, √(81) = 9 (since 9 × 9 = 81), √(90) ≈ 9.5. Only 81 is a perfect square. **Answer:** 81

Question 12

Substitute l = 30.5 and w = 15.25 into the formula. P = 2(30.5 + 15.25) = 2 × 45.75 = 91.5 m. **Answer:** 91.5 m

Question 13: (A) 3/10

The total number of marbles is 5 + 3 + 2 = 10. There are 3 blue marbles, so the probability of picking a blue marble is 3/10. **Answer:** 3/10

Question 14

The area of a parallelogram is A = base × height. A = 14 × 6 = 84 m^2. **Answer:** 84 m^2

Question 15: (B) No, because 91 is divisible by 7

A prime number has exactly two factors: 1 and itself. Check whether 91 has other factors. 91 ÷ 7 = 13, so 91 = 7 × 13. This means 91 is NOT a prime number. Layla is wrong.
Answer: No, because 91 is divisible by 7

Question 16

Subtract 7 from both sides: x/4 = 6.

Multiply both sides by 4: x = 24.

Answer: 24

Question 17: (B) 19

Work out the bracket first: 4 - 9 = -5.

Multiply: -3 × -5 = 15.

Evaluate the power: $2^2 = 4$.

Add: 15 + 4 = 19.

Answer: 19

Question 18

Angles on a straight line add to 180°.

Add the two known angles: 63 + 48 = 111°.

Subtract from 180°: 180 - 111 = 69°.

Answer: 69

Question 19: (D) 10.1 m

Arrange the values in order: 8.7, 9.4, 9.8, 10.1, 11.2, 12.0, 13.5.

There are 7 values, so the median is the 4th value.

The 4th value is 10.1.

Answer: 10.1 m

Question 20: (D) 84 L

Volume of water = length × width × water height.

= 80 × 35 × 30 = 84,000 cm^3.

Convert to litres: 84,000 ÷ 1000 = 84 L.

Answer: 84 L