

Grade 10 Math Readiness Exam Answer Key

Section A: Number Sense & Operations (20 Marks)

Q1. a) 0 (1 mark for multiplication step, 1 mark for final answer) (2 Marks)

b) $\frac{1}{2}$ (1 mark for reciprocal, 1 mark for product, 1 mark for common denominator, 1 mark for simplified fraction) (4 Marks)

Q2. a) x^6 (1 mark for numerator rule, 1 mark for quotient rule) (2 Marks)

b) $16y^{12}$ (1 for coefficient, 1 for exponent) (2 Marks)

Q3. ≈ 7.4 (Accept bounds 7.3 – 7.5) (2 marks for square root bounding reasoning, 1 mark for proximity accuracy) (3 Marks)

Q4. 4.51×10^{-5} (1 mark for decimal position, 1 mark for exponent) (2 Marks)

Q5. Sale price = \$63.75; HST = \$8.29; Total = \$72.04 (2 marks for sale price, 2 marks for tax, 1 mark for final total) (5 Marks)

Section B: Algebra & Expressions (25 Marks)

Q6. a) $-4x + 6y + 6$ (1 mark for grouping, 1 mark for simplifying) (2 Marks)

b) $3x^2 + 2x + 6$ (1 mark for sign distribution, 1 mark for simplified polynomial) (2 Marks)

Q7. a) $-6x + 15$ (1 mark per term) (2 Marks)

b) $-x^2 + 14x$ (2 marks for full expansion, 2 marks for combined terms) (4 Marks)

Q8. a) $x = 5$ (1 mark to isolate term, 2 marks for division steps) (3 Marks)

b) $x = -7$ (1 mark to expand, 1 mark to rearrange, 1 mark for solution) (3 Marks)

c) $x = 7$ (1 mark for cross-multiplication, 1 mark for expanding, 1 mark for solution) (3 Marks)

Q9. a) $w = \frac{P-2I}{2}$ (1 mark for shifting term, 2 marks for complete division isolation) (3 Marks)

b) $x = \frac{y-b}{m}$ (1 mark for shifting intercept, 2 marks for dividing out slope) (3 Marks)

*Please note the answer to Q11 is on the next page.

Section C: Linear Relations & Graphing (30 Marks)

Q10. Values: $(-1, 5), (0, 3), (1, 1), (2, -1)$. First differences are constant at -2 .

Conclusion: Relationship is linear. (2 marks for coordinates, 2 marks for differences, 2 marks for conclusion) **(6 Marks)**

Q11.  Click here to see the Teacher Solution Key Graph on Desmos (3 marks per correctly drawn line) **(6 Marks)**

Q12. Slope $m = 3$; Intercept $b = -1$; Equation: $y = 3x - 1$ (3 marks for slope equation, 2 marks for evaluating b , 1 mark for final formula layout) **(6 Marks)**

Q13. a) Partial Variation (2 Marks) **b)** Direct Variation (2 Marks)

Q14. Rate of Change = $\frac{20-0}{4-0} = 5 \text{ m/s}$ (2 marks for reading chart coordinates, 2 marks for unit execution) **(4 Marks)**

Q15. Crossing intersection coordinate is $(2, 3)$ (4 marks for exact target point isolation) **(4 Marks)**

Section D: Measurement & Geometry (25 Marks)

Q16. $6^2 + 8^2 = x^2 \rightarrow 100 = x^2 \rightarrow x = 10 \text{ cm}$ (2 marks for equation setup, 2 marks for squaring, 1 mark for units) **(5 Marks)**

Q17. Volume = 282.6 cm^3 ; Surface Area = 244.9 cm^2 (4 marks for volume calculations, 4 marks for surface area calculations with metric labels) **(8 Marks)**

Q18. $x = 70^\circ$ (Alternate Interior Angles); $y = 70^\circ$ (Vertically Opposite); $z = 110^\circ$ (Supplementary/Straight Line) (1 mark for degrees, 1 mark for geometric proof theorem per point) **(6 Marks)**

Q19. Ratio $\frac{2}{5} = \frac{24}{\text{Larger Perimeter}} \rightarrow \text{Perimeter} = 60 \text{ cm}$ (3 marks for proportional logic setup, 3 marks for algebra calculation) **(6 Marks)**

Q11:

