Grade 9 - Final Exam

Answer Keys

Practice Papers 1 & 2

Mathematics

Based on Maharashtra Board Syllabus (NEP 2025-26) - Full Syllabus

Note:

This document contains the answer keys for Final Exam Practice Paper 1 and Practice Paper 2.

Practice Paper 1 - Answer Key

Section A: Sets and Real Numbers

1. a) {a, e, i, o, u}

1. b) {3, 5, 7}

1. c) {1, 2, 3, 6, 9, 18}

1. d) No

1. e) 4/10 or 2/5

2. a) 0.875

2. b) 2 (10 - 8)

2. c) 15

2. d) Possible answers: 0.3, 0.4, 0.45, etc. (Any two rational numbers between 0.25 and 0.5)

2. e) Yes

Section B: Polynomials and Factorisation

3. a) 7

3. b) $8y^2 + 4y - 4$

3. c) 6p + 10 ((10p + 1) - (4p - 9) = 10p + 1 - 4p + 9)

3. d) $3x^3 + 12x^2 - 6x$

3. e) 5

4. a) 9(a + 3)

4. b) 5x(2x - 3)

4. c) $6p^2q(3p + 4q)$

4. d) (y - 7)(y + 7)

4. e) $(m + 5)^2$

Section C: Parallel Lines & Transversal and Congruence of Triangles

5. a) 115 ° (Corresponding angles are equal)

5. b) 115 ° (Alternate interior angles are equal)

5. c) 65 ° (Consecutive interior angles are supplementary. 180 - 115)

5. d) 115 ° (Vertically opposite angles are equal)

5. e) Consecutive interior angles (sum is 180°)

6. a) If two angles and the included side of one triangle are equal to the corresponding two angles and the included side of another triangle, then the two triangles are congruent.

6. b) ASA

6. c) angle T

6. d) SSS

6. e) [Drawing of two right-angled triangles with hypotenuse and one side marked as equal]

Section D: Construction of Triangles and Mixed Problems

7. a) [Rough sketch of a triangle with sides 7, 9, 11 cm]

7. b) [Rough sketch of a triangle with sides 6 cm and 8 cm, and the included angle 70°]

7. c) [Rough sketch of a triangle with base 8 cm and adjacent angles 50° and 60°]

7. d) [Rough sketch of a right-angled triangle with base 5 cm and hypotenuse 13 cm]

8. a) -5/6 (-2/3 - 1/6 = -4/6 - 1/6)

8. b) 6 or -14 (If other is x, then x - (-4) = 10 -> x + 4 = 10 -> x = 6. Or -4 - x = 10 -> -x = 14 -> x = -14)

8. c) x - 4 (x^2 - 7x + 12 = (x - 3)(x - 4))

8. d) 85 ° (Corresponding angles are equal, Alternate interior angles are equal)

8. e) side MN = side YZ

Practice Paper 2 - Answer Key

Section A: Sets and Real Numbers

1. a) {2, 3, 5, 7}

1. b) {m, n, o, p, q, r}

1. c) {8, 12, 16, 20, 24}

1. d) No

1. e) 15/10 or 3/2

2. a) 0.6

2. b) 17 (12 + 5)

2. c) 9

2. d) Possible answers: 0.8, 0.9, 0.95, etc. (Any two rational numbers between 0.75 and 1)

2. e) Yes (√169 = 13, which is a rational number)

Section B: Polynomials and Factorisation

3. a) 6

3. b) $10a^2 - 2a - 4$

3. c) 4x + 8 ((9x + 6) - (5x - 2) = 9x + 6 - 5x + 2)

3. d) $4y^3 - 20y^2 + 12y$

3. e) -8

4. a) 6(b + 3)

4. b) 7y(2y - 3)

4. c) $5a^2b^2(2ab + 3a)$

4. d) (x - 9)(x + 9)

4. e) $(p + 7)^2$

Section C: Parallel Lines & Transversal and Congruence of Triangles

5. a) 70 ° (Corresponding angles are equal)

5. b) 70 ° (Alternate exterior angles are equal)

5. c) 110 ° (Consecutive interior angles are supplementary. 180 - 70)

5. d) 70 ° (Vertically opposite angles are equal)

5. e) They form a linear pair (sum is 180°).

6. a) If three sides of one triangle are equal to the corresponding three sides of another triangle, then the two triangles are congruent.

6. b) SSS

6. c) side MN

6. d) AAS (or ASA if the third angle is found first)

6. e) [Drawing of two triangles with two corresponding angles and a non-included side marked as equal]

Section D: Construction of Triangles and Mixed Problems

7. a) [Rough sketch of a triangle with sides 8, 10, 12 cm]

7. b) [Rough sketch of a triangle with sides 7 cm and 9 cm, and the included angle 60°]

7. c) [Rough sketch of a triangle with base 9 cm and adjacent angles 50° and 80°]

7. d) [Rough sketch of a right-angled triangle with base 6 cm and hypotenuse 10 cm]

8. a) 5/8 (7/8 - 1/4 = 7/8 - 2/8)

8. b) -7 or 17 (If other is x, then x - 5 = -12 -> x = -7. Or 5 - x = -12 -> 17 = x)

8. c) y + 5 ($y^2 + 8y + 15 = (y + 3)(y + 5)$)

8. d) 55 ° (Corresponding angles are equal, Alternate interior angles are equal)

8. e) ∠T = ∠W

Section D: Mixed Problems (Continued)

9. a) x = 4 (3x = 19 - 7 = 12)

9. b) y = 5 (5y = 23 + 2 = 25)

9. c) p = 16 (p/4 = 5 - 1 = 4)

9. d) a = 2 (2a + 6 = 10 -> 2a = 4)

9. e) 3 (If other is x, then x + (-8) = -5 -> x - 8 = -5 -> x = 3)

10. a) -5/4 (-3/4 - 1/2 = -3/4 - 2/4)

10. b) 20

10. c) 9

10. d) 75 °

10. e) [Rough sketch of a triangle with angles 40°, 60°, 80°]

End of Answer Keys