



Discriminant and Nature of Roots

Name _____

Score _____

RQ:27

Write the discriminant and nature of roots for each quadratic equation.

| Q.No | Quadratic Equations | Discriminant | Nature of roots |
|------|---------------------|--------------|-----------------|
| 1) | $z^2 - z - 4 = 0$ | | |
| 2) | $5g^2 + 2g - 6 = 0$ | | |
| 3) | $4x^2 - 4x + 1 = 0$ | | |
| 4) | $t^2 + 3t - 2 = 0$ | | |
| 5) | $y^2 - 2y = 0$ | | |
| 6) | $3m^2 + m - 5 = 0$ | | |
| 7) | $p^2 + 6p + 10 = 0$ | | |
| 8) | $6n^2 + 3 = 0$ | | |



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Answer key

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Write the discriminant and nature of roots for each quadratic equation.

| Q.No | Quadratic Equations | Discriminant | Nature of roots |
|------|---------------------|--------------|----------------------------------------|
| 1) | $z^2 - z - 4 = 0$ | 17 | The roots are real and unequal. |
| 2) | $5g^2 + 2g - 6 = 0$ | 124 | The roots are real and unequal. |
| 3) | $4x^2 - 4x + 1 = 0$ | 0 | The roots are real and equal. |
| 4) | $t^2 + 3t - 2 = 0$ | 17 | The roots are real and unequal. |
| 5) | $y^2 - 2y = 0$ | 0 | The roots are real and equal. |
| 6) | $3m^2 + m - 5 = 0$ | 61 | The roots are real and unequal. |
| 7) | $p^2 + 6p + 10 = 0$ | -4 | The roots are unreal. |
| 8) | $6n^2 + 3 = 0$ | -72 | The roots are unreal. |