

NOTES: SECONDARY 2 HONORS
UNIT 6 – WRITING QUADRATIC EQUATIONS

STARTER

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| 1. Solve. $3x^2 - 7x + 2 \geq 0$ | 2. When is the function undefined? $f(x) = \frac{(x+3)(x-2)}{x-4}$ |
| 3. When is the function zero? $f(x) = \frac{(x+3)(x-2)}{x-4}$ | 3. Solve. $0 > \frac{(x+3)(x-2)}{x-4}$ |

RECALL:

Standard Form: $y = ax^2 + bx + c$

Vertex Form: $y = a(x-h)^2 + k$

Intercept/Factored Form: $y = a(x-p)(x-q)$

- Use vertex form when given the _____ and a _____.
- Use intercept/factored form when given _____ or _____.

Example:

1. Write an equation of the quadratic with vertex $(-3,-1)$ and goes through the point $(-5,-5)$.

- Which form do you want to use?

2. Write an equation of the quadratic that passes through the point $(3,-3)$ with x-intercepts $(-3,0)$ and $(5,0)$.

- Which form do you want to use?

3. Write a quadratic in **standard form** with zeros -2 and 4 .

4. Write an equation of the quadratic with vertex $(-3,3)$ and goes through the point $(3,7)$.

5. Write an equation of the quadratic that has x-intercepts $(-3,0)$ and $(6,0)$ and passes through the point $(3,8)$.

6. If a gym charges its members \$300 per year to join, they get 1000 members. For each \$2 increase in price they can expect to lose 5 members. How much should the gym charge to maximize its revenue? What is the gym's maximum revenue?