Quiz 4.3 REVIEW Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Identify the Key Elements from Factored Form**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Factored Form | Zeros | A.O.S. | Vertex | Min/Max? |
| 1. $f\left(x\right)=-2(x-3)(x+5)$ |  |  |  |  |
| 2. $f\left(x\right)=\frac{1}{2}(x+2)(x-8)$ |  |  |  |  |

**Multiply from Factored form to STANDARD FORM**

|  |  |
| --- | --- |
| Factored Form | Standard Form |
| $$f\left(x\right)=A(x-r\_{1})(x-r\_{2})$$ | $$f\left(x\right)=Ax^{2}+Bx+c$$ |
| 3. $f\left(x\right)=-2(x-3)(x+5)$ |  |
| 4. $f\left(x\right)=\frac{1}{2}(x+2)(x-8)$ |  |

**Identify the Key Elements from Vertex Form**

|  |  |  |  |
| --- | --- | --- | --- |
| Vertex Form | Vertex | A.O.S. | Min/Max? |
| 5. $f\left(x\right)=-2(x-3)^{2}+5$ |  |  |  |
| 6. $f\left(x\right)=\frac{1}{2}(x+4)^{2}-3$ |  |  |  |

**Multiply from Vertex form to STANDARD FORM**

|  |  |
| --- | --- |
| Vertex Form | Standard form |
| 7. $f\left(x\right)=A(x-h)^{2}+k$ | $$f\left(x\right)=Ax^{2}+Bx+c$$ |
| 8. $f\left(x\right)=-2(x-3)^{2}+5$ |  |
| 9. $f\left(x\right)=\frac{1}{2}(x+4)^{2}-3$ |  |

**In 10 – 12, all equations in this group are in which form? (Circle One)**

Standard Form Vertex Form Factored Form

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Equation | $y-$intercept | Axis of Symmetry | Vertex | Opens up or down? |
| 10. $y=x^{2}+4x-7$ |  |  |  |  |
| 11. $y=x^{2}-2x+15$ |  |  |  |  |
| 12. $y=-x^{2}+2x-3$ |  |  |  |  |

**In 13 – 15, all equations in this group are in which form? (Circle One)**

Standard Form Vertex Form Factored Form

|  |  |  |  |
| --- | --- | --- | --- |
| Equation | Vertex | Axis of Symmetry | Max or Min? |
| 13. $y=-0.5\left(x-5\right)^{2}+4$ |  |  |  |
| 14. $y=(x+2)^{2}-1$ |  |  |  |
| 15. $y=2\left(x-3\right)^{2}+5$ |  |  |  |

**In 16 – 18, all equations in this group are in which form? (Circle One)**

Standard Form Vertex Form Factored Form

|  |  |  |  |
| --- | --- | --- | --- |
| Equation | Roots/Zeros | A.O.S. | Vertex |
| 16. $y=(x-6)(x-10)$ |  |  |  |
| 17. $y=-3(x-2)(x+4)$ |  |  |  |
| 18. $y=(3x-9)(x+7)$ |  |  |  |

In 19 – 21, multiply the binomials. Show your work.

19. (x + 6)(x – 9) 20. (2x + 5)(x + 7) 21. (3x – 2)(4x – 5)