Identifying Quadratic Information from a Graph Answers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| $a=-1$  | $a=-3$  | $a=2$  | $a=-2$  | $a=1$  | $a=3$  | $a=-1$  | $a=2$  | $a=3$  |
| $$b=$$ | $$b=$$ | $$b=$$ | $$b=$$ | $$b=$$ | $$b=$$ | $$b=$$ | $$b=$$ | $$b=$$ |
| $$c=-5$$ | $$c=3$$ | $$c=8$$ | $$c=6$$ | $$c=-8$$ | $$c=-9$$ | $$c=4$$ | $$c=-8$$ | $$c=3$$ |
| $$h=-3$$ | $$h=0$$ | $$h=-2$$ | $$h=-1$$ | $$h=-1$$ | $$h=1$$ | $$h=0$$ | $$h=0$$ | $$h=1$$ |
| $$k=4$$ | $$k=3$$ | $$k=0$$ | $$k=8$$ | $$k=-9$$ | $$k=-12$$ | $$k=4$$ | $$k=-8$$ | $$k=0$$ |
| $$r\_{1}=-5$$ | $$r\_{1}=-1$$ | $$r\_{1}=-2$$ | $$r\_{1}=-3$$ | $$r\_{1}=-4$$ | $$r\_{1}=-1$$ | $$r\_{1}=-2$$ | $$r\_{1}=-2$$ | $$r\_{1}=1$$ |
| $$r\_{2}=-1$$ | $$r\_{2}=1$$ | $$r\_{2}=-2$$*If there’s only one* x*-int., write it twice!* | $$r\_{2}=1$$ | $$r\_{2}=2$$ | $$r\_{2}=3$$ | $$r\_{2}=2$$ | $$r\_{2}=2$$ | $$r\_{2}=1$$*If there’s only one* x*-int., write it twice!* |

Using the Axis of Symmetry to Determine *b*

*This handout uses the h & a from the previous handout. (Since #9 has the same h & a as 6, I put the example from the last handout in that space.)*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. *(from EX)* |
| $a=-1$  | $a=-3$  | $a=2$  | $a=-2$  | $a=1$  | $a=3$  | $a=-1$  | $a=2$  | $a=3$  |
| $$b=-6$$ | $$b=0$$ | $$b=8$$ | $$b=-4$$ | $$b=2$$ | $$b=-6$$ | $$b=0$$ | $$b=0$$ | $$b=-12$$ |
| $$h=-3$$ | $$h=0$$ | $$h=-2$$ | $$h=-1$$ | $$h=-1$$ | $$h=1$$ | $$h=0$$ | $$h=0$$ | $$h=2$$ |

Using Given Information to Write Quadratic Equations Answers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 1. | 2. | 3. | 4. |
| **Standard**  | $$f\left(x\right)=-x^{2}-6x-5$$ | $$f\left(x\right)=-3x^{2}+3$$ | $$f\left(x\right)=2x^{2}+8x+8$$ | $$f\left(x\right)=-2x^{2}+4x+6$$ |
| **Vertex** | $$f\left(x\right)=-\left(x+3\right)^{2}+4$$ | $$f\left(x\right)=-3\left(x\right)^{2}+3$$ | $$f\left(x\right)=2\left(x+2\right)^{2}$$ | $$f\left(x\right)=-2\left(x+1\right)^{2}+8$$ |
| **Factored** | $$f\left(x\right)=-(x+5)(x+1)$$ | $$f\left(x\right)=-3(x+1)(x-1)$$ | $$f\left(x\right)=2(x+2)(x+2)$$ | $$f\left(x\right)=-2(x+3)(x-1)$$ |
|  | 5. | 6. | 7. | 8. |
| **Standard**  | $$f\left(x\right)=x^{2}+2x-8$$ | $$f\left(x\right)=3x^{2}-6x-9$$ | $$f\left(x\right)=-x^{2}+4$$ | $$f\left(x\right)=2x^{2}-8$$ |
| **Vertex** | $$f\left(x\right)=\left(x+1\right)^{2}-9$$ | $$f\left(x\right)=3\left(x-1\right)^{2}-12$$ | $$f\left(x\right)=-\left(x\right)^{2}+4$$ | $$f\left(x\right)=2\left(x\right)^{2}-8$$ |
| **Factored** | $$f\left(x\right)=(x+4)(x-2)$$ | $$f\left(x\right)=3(x+1)(x-3)$$ | $$f\left(x\right)=-(x+2)(x-2)$$ | $$f\left(x\right)=2(x+2)(x-2)$$ |
|  | 9. | 10. | 11. | 12. |
| **Standard**  | $$f\left(x\right)=3x^{2}-6x+3$$ | $$f\left(x\right)=4x^{2}+40x+84$$ | $$f\left(x\right)=-7x^{2}-42x-63$$ | $$f\left(x\right)=5x^{2}-40x+75$$ |
| **Vertex** | $$f\left(x\right)=3\left(x-1\right)^{2}$$ | $$f\left(x\right)=4\left(x+5\right)^{2}-16$$ | $$f\left(x\right)=-7\left(x+3\right)^{2}$$ | $$f\left(x\right)=5\left(x-4\right)^{2}-5$$ |
| **Factored** | $$f\left(x\right)=3(x-1)(x-1)$$ | $$f\left(x\right)=4(x+7)(x+3)$$ | $$f\left(x\right)=-7(x+3)(x+3)$$ | $$f\left(x\right)=5(x-3)(x-5)$$ |
| 13. **Standard**$ f\left(x\right)=-10x^{2}-40x$, **Vertex** $ f\left(x\right)=-10\left(x-2\right)^{2}+40$, **Factored** $ f\left(x\right)=-10x(x-4)$ |

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| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
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Using the Axis of Symmetry to Determine *b*

*This handout uses the h & a from the previous handout. (Since #9 has the same h & a as 6, I put the example from the last handout in that space.)*

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| $$b=-6$$ | $$b=0$$ | $$b=8$$ | $$b=-4$$ | $$b=2$$ | $$b=-6$$ | $$b=0$$ | $$b=0$$ | $$b=-12$$ |
| $$h=-3$$ | $$h=0$$ | $$h=-2$$ | $$h=-1$$ | $$h=-1$$ | $$h=1$$ | $$h=0$$ | $$h=0$$ | $$h=2$$ |

Using Given Information to Write Quadratic Equations Answers

|  |  |  |  |  |
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| **Factored** | $$f\left(x\right)=-(x+5)(x+1)$$ | $$f\left(x\right)=-3(x+1)(x-1)$$ | $$f\left(x\right)=2(x+2)(x+2)$$ | $$f\left(x\right)=-2(x+3)(x-1)$$ |
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