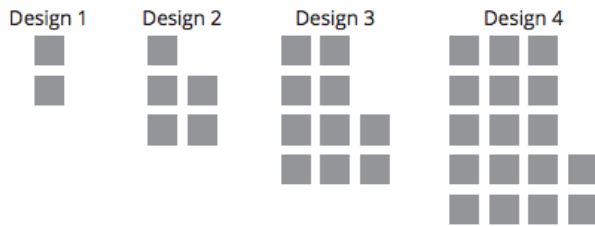


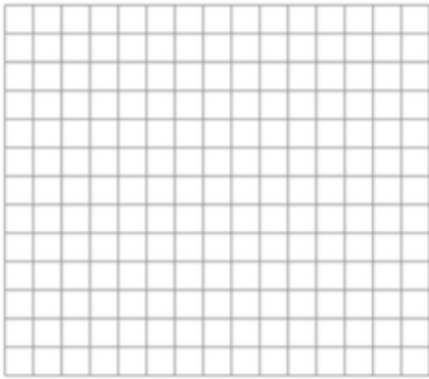
M1T1 DCA (F.IF.8) Review

1. The diagrams show different designs a child is making by stacking blocks.



a. Given $n =$ the design number, write an expression for the n th design.

b. Sketch Design 5.



c. If the child has only 60 blocks, what is the largest design she can complete? Show your work and/or

2. Analyze the function $f(x) = (x - 8)(x + 10)$

a. Is the graph of the function concave up or concave down?

b. What are the roots (x-intercepts)?

c. What is the vertex?

d. What is the axis of symmetry?

e. What is the y-intercept?

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3. Analyze the function $f(x) = -4(x - 9)^2 + 12$.

- a. Is the graph of the function concave up or concave down?
- b. What is the vertex?
- c. What is the axis of symmetry?
- d. What is the y-intercept?

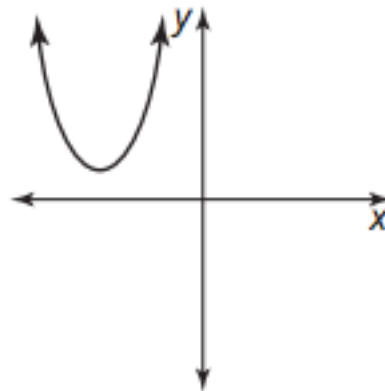
4. Analyze the function $f(x) = -x^2 + 14x - 20$.

- a. Is the graph of the function concave up or concave down?
- b. What is the vertex?
- c. What is the axis of symmetry?
- d. What is the y-intercept?

5. Analyze the graph. Describe whether each function could be used to model the graph. Explain your reasoning.

a. $f(x) = -5(x + 6)^2 + 2$

b. $g(x) = 3(x - 4)^2 + 1$



6. Simplify. Show your work.

a. $-11i + 12 - 9i - 21 + 6i$

b. $(-10i - 12) - (6i - 8)$

c. $(7 + 3i)(6 - 8i)$

d. $(9i - 6)(8i + 4)$