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| 1. **Computer Number Systems**   How many 1’s are there in the binary representations of :  167438 | **1.** |
| **2. Computer Number Systems**  Convert 3F6A16 to octal. | **2.** |
| **3. Recursive Functions**    Begin with a rhombus. This is Stage 1 and there is one rhombus with 4  segments in its perimeter. The next stage adds a congruent rhombus on each  perimeter edge of the previous figure. Now there are five congruent   rhombuses and 12 segments in its perimeter. The third stage adds  8 more for a total of 13 and 20 segments in its perimeter. Each subsequent   stage is formed in the same manner. How many segments are its perimeter  after Stage 6 is completed? | **3.** |
| **4. Recursive Functions**  Find (12) given: | **4.** |
| **5. What Does This Program Do?**  What is outputted when this program is run?  a = 12: b = 1: c = 0: d = 4 : e = 2  if a > d then a = a - d  if (d – b) < (e – a) then d = d + e  if a \* b == d \* e then e = a \* b / e else d = d \* e / a  if d ↑ 2 < = (b + 1) ↑ 2 then d = b + 1 else b = b + 1  if a + b \* c == d + e \* c then a = b \* c else d = e \* c  output (a + e) / b + (d + c) ↑ b \* c | **5.** |