Section problems:

1. One possible solution appears below.

```java
public void writeNums(int n) {
    if (n < 1) {
        throw new IllegalArgumentException();
    }

    if (n == 1) {
        System.out.print(1);
    } else {
        writeNums(n - 1);
        System.out.print(", " + n);
    }
}
```

2. One possible solution appears below.

```java
public void writeChars(int n) {
    if (n < 1) {
        throw new IllegalArgumentException();
    }

    if (n == 1) {
        System.out.print("*");
    } else if (n == 2) {
        System.out.print("**");
    } else {
        System.out.print("<");
        writeChars(n - 2);
        System.out.print(">");
    }
}
```

3. One possible solution appears below.

```java
public void printTwos(int n) {
    if (n < 1) {
        throw new IllegalArgumentException();
    }

    if (n % 4 == 0) {
        System.out.print("2 * ");
        printTwos(n / 4);
        System.out.print(" * 2");
    } else if (n % 2 == 0) {
        System.out.print("2 * ");
        printTwos(n / 2);
    } else {
        System.out.print(n);
    }
}
```

4. One possible solution appears below.

```java
public void stutter(Stack<Integer> s) {
    if (!s.isEmpty()) {
        int next = s.pop();
        stutter(s);
        s.push(next);
        s.push(next);
    }
}
```

5. One possible solution appears below.

```java
public void writeSquares(int n) {
    if (n < 1) {
        throw new IllegalArgumentException();
    }

    if (n == 1) {
        System.out.print(1);
    } else if (n % 2 == 1) {
        System.out.print(n * n + ", ");
        writeSquares(n - 1);
    } else {
        writeSquares(n - 1);
        System.out.print(", " + n * n);
    }
}
```

6. One possible solution appears below.

```java
public String substring(String s, int i, int j) {
    if (i < 0 || i > j || j > s.length()) {
        throw new IllegalArgumentException();
    }

    if (i == j) {
        return "";
    } else {
        return s.charAt(i) + substring(s, i + 1, j);
    }
}
```

7. One possible solution appears below.

```java
public void writeSequence(int n) {
    if (n < 1) {
        throw new IllegalArgumentException();
    }

    if (n == 1) {
        System.out.print(1);
    } else if (n == 2) {
        System.out.print("1 1");
    } else {
        int number = (n + 1) / 2;
        System.out.print(number + " ");
        writeSequence(n - 2);
        System.out.print(" " + number);
    }
}
```