1. (a) $\boxed{819}$

(b) The given information is $a_1 = 7, d = -3, n = 14$. We need to find a_{14}. We first find a_n:

$$\begin{aligned} a_n &= a_1 + d(n-1) \\ &= 7 - 3(n-1) \\ &= 7 - 3n + 3 \\ &= 10 - 3n \end{aligned}$$

Plug in $n = 14$:

$$a_{14} = 10 - 3n = 10 - 3(14) = 10 - 42 = -32$$

Then the sum is $(a_1 + a_n) \cdot \frac{n}{2}$:

$$s_14 = (7 - 32) \cdot \frac{14}{2} = -25 \cdot 7 = \boxed{-175}$$

(c) The given information is $a_1 = \frac{1}{2}, d = \frac{1}{3}, a_n = \frac{19}{2}$. We need to find n. We first find the general solution, a_n:

$$\begin{aligned} a_n &= a_1 + d(n-1) \\ &= \frac{1}{2} + \frac{1}{3}(n-1) \\ &= \frac{1}{2} + \frac{n}{3} - \frac{1}{3} \\ &= \frac{n}{3} + \frac{1}{6} \end{aligned}$$

Plug in $a_n = \frac{19}{2}$:

$$\begin{aligned} \frac{19}{2} &= \frac{n}{3} + \frac{1}{6} \\ 57 &= 2n + 1 \\ 56 &= 2n \\ n &= 28 \end{aligned}$$

Then the sum is $(a_1 + a_n) \cdot \frac{n}{2}$:

$$s_28 = (\frac{1}{2} + \frac{19}{2}) \cdot \frac{28}{2} = 10 \cdot 14 = \boxed{140}$$

2. The first 50 odd numbers are $1, 3, 5, \ldots$. This gives us the following information: $a_1 = 1, d = 2, n = 50$. We now need to find a_50. We first find a_n:

$$\begin{aligned} a_n &= a_1 + d(n-1) \\ &= 1 + 2(n-1) \\ &= 1 + 2n - 2 \\ &= 2n - 1 \end{aligned}$$

Plug in $n = 50$:

$$a_50 = 2(50) - 1 = 99$$

Then the sum is $(a_1 + a_n) \cdot \frac{n}{2}$:

$$s_50 = (1 + 99) \cdot \frac{50}{2} = 100 \cdot 25 = \boxed{2500}$$

3. $\boxed{-50}$

4. The information given is $a_1 = 7, n = 15, s_15 = -210$. We use the formula for the sum of the series:

$$\begin{aligned} s_n &= (a_1 + a_15) \cdot \frac{n}{2} \\ -210 &= (7 + a_15) \cdot \frac{15}{2} \\ -28 &= 7 + a_15 \\ a_15 &= -35 \end{aligned}$$

Now we can use the general term a_n to find the common difference:

$$\begin{aligned} a_n &= a_1 + d(n-1) \\ -35 &= 7 + d(15-1) \\ -35 &= 7 + 14d \\ -42 &= 14d \\ d &= \boxed{-3} \end{aligned}$$

5. The information given is $s_5 = 70, s_10 = 210$. If we plug this information into the formula for sum of an arithmetic series, we get the following system of equations:
$\begin{cases} 70 & = (a_1 + a_5) \cdot \frac{5}{2} \\ 210 & = (a_1 + a_10) \cdot \frac{10}{2} \end{cases}$
In the form shown it cannot be solved, but it can be shown that $a_5 = a_1 + 4d$ and $a_10 = a_1 + 9d$. We can plug this into our system and we now have a system with only 2 unknowns (a_1, d):
$\begin{cases} 70 & = (a_1 + a_1 + 4d) \cdot \frac{5}{2} \\ 210 & = (a_1 + a_1 + 9d) \cdot \frac{10}{2} \end{cases}$
Solving gives us $\boxed{a_1 = \frac{42}{5} = 8.4}$.

6. The information given is $n = 20, d = 3, s_n = 650$. We use the sum of an arithmetic sequence:

$$650 = (a_1 + a_n) \cdot \frac{20}{2}$$
$$650 = (a_1 + a_n) \cdot 10$$
$$65 = a_1 + a_n$$

But we know $a_n = a_1 + d(n-1) = a_1 + 3(n-1) = a_1 + 57$ so we can plug this in:

$$65 = a_1 + a_1 + 57$$
$$65 = 2a_1 + 57$$
$$8 = 2a_1$$
$$a_1 = \boxed{4}$$

7. $\boxed{1220}$

8. This is an arithmetic series with $n = 30, a_1 = 20, d = 4$. We need to find a_30:

$$\begin{aligned} a_n &= a_1 + d(n-1) \\ &= 20 + 4(n-1) \\ &= 20 + 4n - 4 \\ &= 16 + 4n \end{aligned}$$

Plug in $n = 30$:

$$a_30 = 16 + 4(30) = 16 + 120 = 136$$

Now we can find the sum:

$$s_30 = (20 + 136) \cdot \frac{30}{2} = (156) \cdot 15 = \boxed{2340}$$

9. $\boxed{405}$

10. This is an arithmetic series with $n = 17, a_1 = 4.9, d = 9.8$ and we are looking for s_17. We need to find a_17:

$$\begin{aligned} a_n &= a_1 + d(n-1) \\ &= 4.9 + 9.8(n-1) \\ &= 4.9 + 9.8n - 9.8 \\ &= 9.8n - 4.9 \end{aligned}$$

Plug in $n = 17$:

$$a_17 = 9.8(17) - 4.9 = 161.7$$

Now we can find the sum:

$$s_17 = (4.9 + 161.7) \cdot \frac{17}{2} = 166.6 \cdot \frac{17}{2} = 83.3 \cdot 17 = \boxed{1416.1 \text{ m}}$$