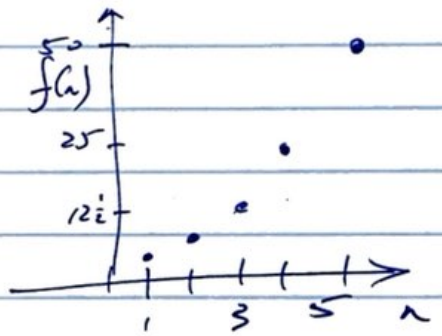
BECA / Hinson / Algebra 2

Lesson 1.8 Homework Solutions

1. 1. $f(0) = -20$ so
$f(1) = f(1-1) - 5 = -20 - 5$
2. each term is 5 less than the previous,
so $f(3) = -20 \underbrace{-5-5-5}_{3}$
3. $f(10) = -20 - 5(10)$ - Subtract 5 ten times

2. $f(n) = -4 - 2n$



3. 1. 3, 6, 12, 24, 48 2.
3. geometric. there is a multiplicative factor of $r = 2$

4. $f(1) = 7$
$f(n) = f(n-1) - 2 \quad n \geq 2$

5. 1. 5, 8, 11, 14, 17 arithmetic
2. 1, 3, 9, 27, 81 geometric
3. 3, 5, -2, 3, -2, 3 neither
4. 5, 7, 10, 14, 19 neither

6. 1. geometric. there is a multiplicative factor of $\frac{1}{4}$
2. 64, 16, 4, 1, $\frac{1}{4}$
3. $f(1) = 64$, $f(n) = f(n-1) \cdot \frac{1}{4} \quad n \geq 2$

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Lesson 1.9 Homework SOLUTIONS

1.1) | n | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| $P(n)$ | 6 | 10 | 14 | 18 | 22 |

2) Four additional seats are available

3) You can not add 0.2 of a table

4) $P(1) = 6$

$P(n) = P(n-1) + 4 \quad n \geq 2$

or $P(n) = 6 + 4(n-1) \quad n \geq 1$

2. 1. $d = 1.52$

n	$h(n)$
0	7.6
1	9.12
2	10.64
3	12.16

2. No. You can not add a fraction of a penny

3. 1.

n	$A(n)$
0	80
1	60
2	45
3	$33\frac{3}{4}$

2. $A(n) = 80 \cdot \left(\frac{3}{4}\right)^n$

3. $n \in \mathbb{Z}, n \geq 0$

you can't have a fraction of a person

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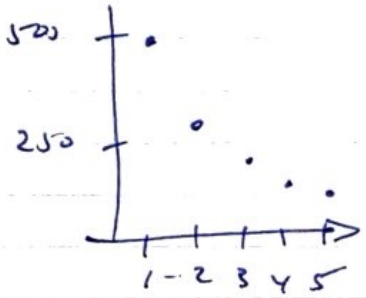
Lesson 1.10 Homework — Solutions

1. $f(n) = 3 \cdot 2^n \quad n \geq 0$

2. $g(0) = 20$
   $g(n) = g(n-1) \cdot 3$
   or $g(n) = 20 \cdot 3^n$

3.



4. 1. $a(n) = 4 + 12(n-1)$
   $a(15) = 4 + 12(15-1)$

   2. $g(n) = 4 \cdot 4^n \quad n \geq 0$
   $g(15) = 4 \cdot 4^{15}$

5. 2. $A(n) = 96 \cdot (\frac{1}{2})^n$ 1.

n	A(n)
0	96
1	48
2	24
3	12

integers ≥ 0 you can't have a negative or fractional fold

6. 1. It doubles twice
   2. $D(n) = 2 \cdot 2^{(n-1)}$
   3. geometric. It has a multiplicative factor $r = 2$

7. 1.

n	w(n)
0	6.75
1	7.25
2	7.75
3	8.25

2. No, 0.25 of a paperclip doesn't make sense.