EJERCICIO II - 1

1. a) $x = \pm \frac{1}{2}$

   b) $x = \pm \frac{1}{2}$

   c) $x = \pm \frac{1}{10}$

   d) $y = \pm \frac{1}{2}\sqrt{2}$

   e) $x = \pm \frac{5}{3} i$

   f) $y = \pm 3i\sqrt{3}$

   g) $x = \pm 5i$

   h) $y = \pm \frac{1}{6} i$

2. a) $x_1 = 0, \quad x_2 = -\frac{5}{3}$

   b) $x_1 = 0, \quad x_2 = 1$

   c) $x_1 = 0, \quad x_2 = -\frac{1}{2}$

   d) $y_1 = 0, \quad y_2 = \frac{1}{3}$

   e) $x_1 = 0, x_2 = -2$

   f) $x_1 = 0, x_2 = \frac{5}{3}$

   g) $y_1 = 0, y_2 = 7$

   h) $x_1 = 0, x_2 = -3$

EJERCICIO II - 2

a) $x_1 = -\frac{2}{3}, \quad x_2 = \frac{3}{2}$

b) $x_1 = -2, \quad x_2 = 3$

c) $x_1 = -3, \quad x_2 = 2$

d) $x_1 = -2.5, x_2 = 1$

e) $x_1 = x_2 = 1.5$

f) $x_1 = -5, x_2 = -1$

g) $x_1 = -4, x_2 = 1.5$

h) $x_1 = -1.1, x_2 = 3.6$

EJERCICIO II - 3

a) $x_1 = 2, \quad x_2 = 1$

b) $x_1 = 5, \quad x_2 = 2$

c) $x_1 = -4, x_2 = 2$

d) $x_1 = 5, \quad x_2 = -2$

e) $x_1 = -7, \quad x_2 = -7$

f) $x_1 = \frac{3}{8}, \quad x_2 = \frac{2}{5}$

g) $x_1 = \frac{1}{2}, \quad x_2 = -2$

h) $x_1 = \frac{3}{2}, \quad x_2 = \frac{3}{2}$

i) $x_1 = -\frac{1}{2}, \quad x_2 = 4$

j) $x_1 = -\frac{3}{2}, \quad x_2 = 2$

EJERCICIO II - 4

a) $x_1 = \frac{7}{2}, \quad x_2 = -\frac{3}{2}$

b) $x_1 = -\frac{3}{2}, \quad x_2 = -2$

c) $x_1 = 1, \quad x_2 = -6$

d) $x_1 = 2, \quad x_2 = \frac{1}{2}$

e) $x_1 = x_2 = \frac{3}{2}$

f) $x_1 = \frac{1}{3}, \quad x_2 = -\frac{3}{2}$

g) $x_1 = \frac{1}{3}, \quad x_2 = -\frac{5}{2}$

h) $x_1 = 1, \quad x_2 = -2$

EJERCICIO II - 5

a) $x_1 = \frac{2}{3}, \quad x_2 = -3$

b) $x_1 = \frac{1}{4}, \quad x_2 = -2$

c) $x_1 = 2, \quad x_2 = 1$

d) $y_1 = y_2 = -\frac{3}{2}$

e) $x_1 = 6, \quad x_2 = -1$

f) $x_1 = 3, \quad x_2 = -2$

g) $x_1 = 2, \quad x_2 = -\frac{4}{3}$

h) $x_1 = x_2 = \frac{1}{4}$

i) $x_1 = 1 + \sqrt{2}, \quad x_2 = 1 - \sqrt{2}$

j) $x_1 = 2 + \sqrt{3}, \quad x_2 = 2 - \sqrt{3}$

k) $x_1 = 5, \quad x_2 = -\frac{1}{2}$

l) $x_1 = 1 + 3i, \quad x_2 = 1 - 3i$

m) $y_1 = -1 + 2i, \quad y_2 = -1 - 2i$

n) $x_1 = \frac{3}{2} + \frac{1}{2}i, \quad x_2 = \frac{3}{2} - \frac{1}{2}i$

o) $x_1 = 4 + 3i, \quad x_2 = 4 - 3i$

p) $x_1 = \frac{3}{2} + \frac{3}{2}i, \quad x_2 = \frac{3}{2} - \frac{3}{2}i$

q) $x_1 = -\frac{1}{2} + \frac{1}{2}i\sqrt{3}, \quad x_2 = -\frac{1}{2} - \frac{1}{2}i\sqrt{3}$

r) $x_1 = \frac{1}{2} + \frac{3}{2}i, \quad x_2 = \frac{1}{2} - \frac{3}{2}i$

EJERCICIO II - 6

a) C. S. $\{\sqrt{5}, -\sqrt{5}, i\sqrt{2}, -i\sqrt{2}\}$

b) C. S. $\{2, -2, i, -i\}$

c) C. S. $\{2, -2, \frac{1}{2}, -\frac{1}{2}\}$

d) C. S. $\{\frac{1}{2}, -\frac{1}{2}, 1, -1\}$

e) C. S. $\{\frac{1}{2}, -\frac{3}{2}\}$

f) C. S. $\{\frac{2}{3}, -1\}$

g) C. S. $\{\frac{3}{2}, -\frac{2}{3}\}$

h) C. S. $\{4, -4, 3, -3\}$

i) C. S. $\{3, -3, \sqrt{3}, -\sqrt{3}\}$

j) C. S. $\{\frac{3}{2}, -1\}$

k) C. S. $\{2, -1\}$

l) C. S. $\{-2\}$

m) C. S. $\{8, -64\}$

n) C. S. $\{1, 8\}$

EJERCICIO II - 7

a) C. S. $\{2\}$

b) C. S. $\{0\}$

c) C. S. $\{1, 7\}$

d) C. S. $\{16\}$

e) C. S. $\{6\}$

f) C. S. $\{5\}$

g) C. S. $\{-2\}$

h) C. S. $\{0\}$

i) C. S. $\{3\}$

j) C. S. $\{6\}$

EJERCICIO II - 8

1.

a) C. S. $\{4, 17\}$

b) C. S. $\{3, 5, -\frac{11}{5} - \frac{27}{5}\}$

c) C. S. $\{5, 6, 7, -5, -6, -7\}$

d) C. S. $\{\frac{2}{3}, 1\}$

e) C. S. $\{-1, 6\}$

2.

a) 10 x 15

b) 16, 30

c) 4 x 18

d) 15, 20

e) 10

3.

a) 200 km/hr.

b) 35 km/hr.

c) V ida = 50 km/hr.
V reg = 60 km/hr.

4.

a) A tarda 7.5 hr.
B tarda 5 hr.

b) A tarda 22.8 días
B tarda 17.8 días

c) A tarda 6 hr.
B tarda 12 hr.

EJERCICIO III - 1

a) C.S. $\{(0,5), (4,3)\}$

b) C.S. $\{(-\frac{2}{3}, \frac{7}{3}), (6, -1)\}$

c) C.S. $\{(-1 - 2i, 2 + 3i), (-1 + 2i, 2 - 3i)\}$

d) C.S. $\{(-\frac{1}{3}, \frac{11}{3}), (2, -1)\}$

e) C.S. $\{(\frac{3}{2}, \frac{5}{2}), (-1, -5)\}$

f) C.S. $\{(\frac{9}{5}, \frac{4}{5}), (-1, -2)\}$

g) C.S. $\{(-\frac{5}{12}, \frac{13}{12}), (0, 1)\}$

h) C.S. $\{(\frac{3+\sqrt{5}}{4}, \frac{1+\sqrt{5}}{2}), (\frac{3-\sqrt{5}}{4}, \frac{1-\sqrt{5}}{2})\}$

i) C.S. {47 y/o 74}

j) C.S. { 3 y 6 y/o 6 y 3 }

k) C.S. { 8 x 12 }

l) C.S. { 676 }

EJERCICIO III - 2

a) C.S. $\{(2,6), (-2, -6), (6,2), (-6, -2)\}$

b) C.S. $\{(2\sqrt{2}, \sqrt{2}), (-2\sqrt{2}, -\sqrt{2})\}$

c) C.S. $\{(4, \frac{3}{2}), (-4, -\frac{3}{2}), (3,2) (-3, -2)\}$

d) C.S. $\{(4,0), (-6, -2i\sqrt{5})\}$

e) C.S. $\{(-\frac{8}{3}, \frac{35}{9}), (3, 2)\}$

f) C.S. $\{(6,\frac{8}{3}), (2, 8)\}$

g) C.S. {20 sombreros a $5.00 c/u }

h) C.S. {75 acciones a $25.00 c/u }

EJERCICIO III - 3

a) C.S. $\{(3,2), (-3, -2), (3, -2), (-3, 2)\}$

b) C.S. $\{(1,3), (1, -3), (-1, -3), (-1, 3)\}$

c) C.S. $\{(2i, i\sqrt{3}), (2i, -i\sqrt{3}), (-2i, i\sqrt{3}), (-2i, -i\sqrt{3})\}$

d) C.S. $\{(2,1), (2, -1), (-2, 1), (-2, -1)\}$

e) C.S. $\{(\sqrt{7}, 3), (\sqrt{7}, -3), (-\sqrt{7}, 3), (-\sqrt{7}, -3)\}$

f) C.S. $\{(6,3), (6, -3), (-6, 3), (-6, -3)\}$

g) C.S. $\{(2,3), (2, -3), (-2, 3), (-2, -3)\}$

h) C.S. $\{(\frac{1}{2}, 1), (\frac{1}{2}, -1), (-\frac{1}{2}, 1), (-\frac{1}{2}, -1)\}$

i) C.S. $\{(2, \sqrt{5}), (2, -\sqrt{5}), (-2, \sqrt{5}), (-2, -\sqrt{5})\}$

j) C.S. $\{(1, \sqrt{2}), (1, -\sqrt{2}), (-1, \sqrt{2}), (-1, -\sqrt{2})\}$

EJERCICIO III - 4

a) C.S. $\{(-\frac{5}{2}, \frac{3}{2}), (\frac{5}{2}, -\frac{3}{2}), (-1, 2), (1, -2)\}$

b) C.S. $\{(1,0), (-1, 0), (1, -1), (-1, 1)\}$

c) C.S. $\{(2,1), (-2, 1), (2, -1), (-2, -1)\}$

d) C.S. $\{(4,1), (-4, -1)\}$

e) C.S. $\{(1,3), (-1, -3), (3,1), (-3, -1)\}$

f) C.S. $\{(\sqrt{3}, 0), (-\sqrt{3}, 0), (2, 1), (-2, -1)\}$

g) C.S. $\{(\sqrt{15}, 0), (-\sqrt{15}, 0), (1, -2), (-1, 2)\}$

h) C.S. $\{(-1, 2), (1, -2), (2, 1), (-2, -1)\}$

i) C.S. $\{84\}$

j) C.S. $\{\pm 8, \pm 6\}$

EJERCICIO IV - 1

1.

a) $\frac{1}{3}, \frac{2}{5}, \frac{3}{7}, \frac{4}{9}, \ldots$

b) $1, \frac{3}{4}, \frac{5}{9}, \frac{7}{16}, \ldots$

c) $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \ldots$

d) $2, 4, 8, 16, \ldots$

e) $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \ldots$

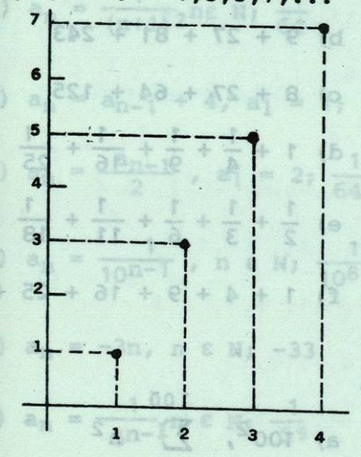
f) $\frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \frac{1}{8}, \ldots$

g) $1, \frac{4}{5}, \frac{4}{5}, \frac{16}{17} \ldots$

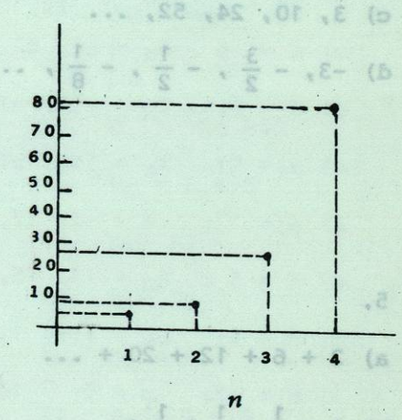
h) $1, 8, 27, 64 \ldots$

2. Graficar las sucesiones, $n \in N$:

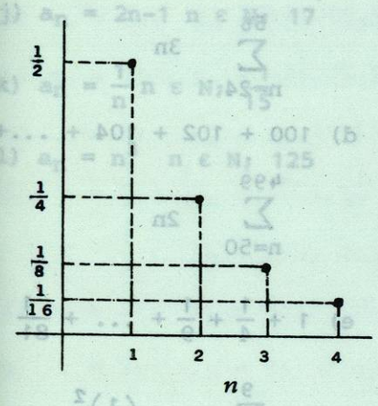
a) $\{2n-1\} = 1,3,5,7,\ldots$



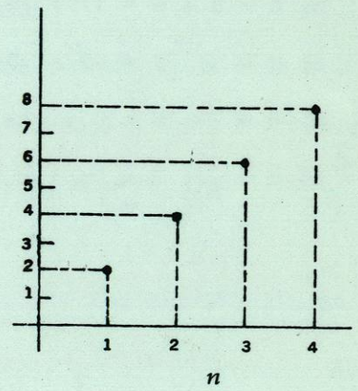
b) $\{3^n\} = 3,9,27, 81,\ldots$



c) $\{(\frac{1}{2})^n\} = \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \ldots$



d) $\{2n\} = 2,4,6,8, \ldots$



3.

a) 1, 3, 5, 7,...

b) $5, \frac{5}{2}, \frac{5}{4}, \frac{5}{8}, \ldots$

c) 3, 10, 24, 52, ...

d) $-3, -\frac{3}{2}, -\frac{1}{2}, -\frac{1}{8}, \ldots$

5.

a) $2 + 6 + 12 + 20 + \ldots$

b) $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \ldots$

c) $\frac{1}{2} + 2 + \frac{9}{2} + 8 + \ldots$

d) $0 + 1 + 3 + 6 + \ldots$

4.

a) $3 + 4 + 5 + 6 + 7$

b) $9 + 27 + 81 + 243$

c) $8 + 27 + 64 + 125$

d) $1 + \frac{1}{4} + \frac{1}{9} + \frac{1}{16} + \frac{1}{25}$

e) $\frac{1}{2} + \frac{1}{3} + \frac{1}{6} + \frac{1}{11} + \frac{1}{18}$

f) $1 + 4 + 9 + 16 + 25 + 36$

6.

a) $100^2, \sum_{n=1}^{100} n^2$

b) $100^{101}, \sum_{n=1}^{100} n^{n+1}$

c) $72 + 75 + 78 + \ldots + 168, \sum_{n=24}^{56} 3n$

d) $100 + 102 + 104 + \ldots + 998, \sum_{n=50}^{499} 2n$

e) $1 + \frac{1}{4} + \frac{1}{9} + \ldots + \frac{1}{81}, \sum_{n=1}^{9} \left(\frac{1}{n}\right)^2$

7.

a) $a_n = \frac{1}{(n+1)^2} n \in N; \frac{1}{64}$

b) $a_n = a_{n-1} + 4, a_1 = 1; 37$

c) $a_n = \frac{a_{n-1}}{2}, a_1 = 2; \frac{1}{64}$

d) $a_n = \frac{1}{10^{n-1}}, n \in N; \frac{1}{10^8}$

e) $a_n = -3n, n \in N; -33$

f) $a_n = \frac{1}{5^{n-1}} n \in N; \frac{1}{5^9}$

g) $a_n = n(n+1)$ $n \in N; 13 \cdot 14$

h) $a_n = \frac{1}{2^{n-1}}$ $n \in N; \frac{1}{2^9}$

i) $a_n = 3^n$ $n \in N; 3^8$

j) $a_n = 2n-1$ $n \in N; 17$

k) $a_n = \frac{1}{n}$ $n \in N; \frac{1}{15}$

l) $a_n = n^3$ $n \in N; 125$

EJERCICIO IV - 2

1.

a) $a_n = 13$; $S_n = 49$; 1,3,5,7,9,11,13

b) $a_n = 4$; $S_n = 39$; 9,8,7,6,5,4.

c) $d = -5$; $S_n = 60$; 22,17,12,7,2

d) $d = 5.6$; $S_n = -18$; -17, -11.4, -5.8, -0.2, 5.4, 11

e) $a_1 = 51$; $S_n = 156$; 51, 41, 31, 21, 11,1

f) $a_1 = 17$; $d = -2$; 17, 15, 13, 11, 9,7, 5,3

g) $d = 3$; $a_n = 13$; -5, -2, 1,4,7,10,13

h) $n = 6$; $S_n = 156$; 1, 11,21,31,41,51

i) $d = -3$; $n = 7$; 10,7,4,1, -2,-5,-8

j) $a_1 = 2$; $n = 8$; 2,5,8,11,14,17,20,23

2.

a) $d = -5$; $S = 245$; 47,42,37,32,27,22,17,12,7,2.

b) $d = 3$; $S = 119$; 8,11,14,17,20,23,26

c) $d = 3$; $S = 99$; 9,12,15,18,21,24

d) $d = \frac{2}{3}$; $S = 0$; -1, -1/3, 1/3, 1.

e) $d = \frac{1}{6}$; $S = 0$; $-\frac{1}{2}, -\frac{1}{3}, -\frac{1}{6}, 0, \frac{1}{6}, \frac{1}{3}, \frac{1}{2}$

3. $a_{28} = 30$

4. $S_{22} = -979$

5. $n = 27$

6. $n = 38$; $S_n = 6,973$

7. $a_1 = -\frac{5}{2}$

8. $n = 55$

9. $n_1 = 15$, $n_2 = 10$

10. $S_n = 2,430$

11. $S_n = 1,530$

12. $S_n = 2,475$

13. $S_n = 624$

14. $S_n = 1,683$

15. $S_n = 104,850$

16. $S_n = 3,875$

17. $n = 81$

18. $n = 33$

19. $S_n = 585$

20. $S_n = 8,910$

EJERCICIO IV - 3

1.

a) $a_n = 32$; $S_n = 62$; 2,4,6,8,16,32

b) $a_n = 256$; $S_n = 341$; 1,4,16,64,256

c) $n = 7$; $S_n = 43$; 1, -2,4,-8,16,-32,64

d) $n = 7$; $S_n = 21.5$; $\frac{1}{2}$, -1, 2, -4, 8, -16, 32

e) $r = \frac{1}{3}$; $S_n = 363$; 243, 81, 27, 9, 3

f) $a_1 = 2^8$; $S_n = 511$; $2^8, 2^7, 2^6, 2^5, 2^4, 2^3, 2^2, 2^1, 2^0$

g) $r = 2$; $n = 5$; 2,4,8,16,32

h) $a_1 = 1$; $n = 7$; 1, -2,4,-8,16,-32,64

i) $n = 10$; $a_n = -256$; $\frac{1}{2}$, -1, 2, -4, 8, -16, 32, -64, 128, -256

j) $a_1 = 3125$; $S_n = 3,906.2$; 3,125, 625, 125, 25, 5, 1, $\frac{1}{5}$

2.

a) 2, 6, 18, 54, 162; $S_n = 242$

b) 128, 64, 32, 16, 8, 4, 2, 1; $S_n = 255$

c) $-\frac{1}{4}, \frac{1}{2}, -1, 2, -4, 8$; $S_n = 5.25$

d) $\frac{8}{9}$, 4/3, 2, 3, 9/2, 27/4; $S_n = \frac{665}{36}$

e) 9, 18, 36, 72, 144, 288, 576; $S_n = 1143$

3.

a) $\sum_{n=1}^{9} 2^{n-1} = 511$

b) $\sum_{n=1}^{8} 3^{n-1} = 3,280$

4. $n = 13$

5. $x = 8$

6. $a_n = 1620$

7. 49,1

8. $a_2 = \frac{5}{4}$

9. $S_n = 199.21875$

10. $S_n = 1.111111111$

11. 3,15,75,375,1875

12. $a_n = 531,441$ N

13. $a_n = 256$ N

14. El 2o plan le dará un mejor ingreso durante el 5o. año

El 1o. plan le dará un mejo ingreso total en el periodo de 5 años.

15. $a_n = \$651.85$

16. \$12,150.00

17. $p = 3/4$

18. P.A. = 2,5,8
P.G. = 3,9,27; $r = 3$

19. $a_{15} = \$9'565,938.00$

20. $a_{40} = \$5,497'558,000.00$
$S_n = \$10,995'115,999.99$

EJERCICIO IV - 4

a) $a^7 + 7a^6b + 21a^5b^2 + 35a^4b^3 + 35a^3b^4 + 21a^2b^5 + 7ab^6 + b^7$

b) $32a^5 - 80a^4b + 80a^3b^2 - 40a^2b^3 + 10ab^4 - b^5$

c) $x^4 - \frac{8x^3}{y} + \frac{24x^2}{y^2} - \frac{32x}{y^3} + \frac{16}{y^4}$

d) $x^5 - \frac{5}{2}x^4 + \frac{5}{2}x^3 - \frac{5}{4}x^2 + \frac{5}{16}x - \frac{1}{32}$

e) $\frac{x^4}{81} - \frac{2}{27}x^3y + \frac{1}{6}x^2y^2 - \frac{1}{6}xy^3 + \frac{y^4}{16}$

f) $\frac{a^6}{b^6} + \frac{6a^4}{b^4} + \frac{15a^2}{b^2} + 20 + \frac{15b^2}{a^2} + \frac{6b^4}{a^4} + \frac{b^6}{a6}$

g) $a^6 + 6a^3 + 15 + \frac{20}{a^3} + \frac{15}{a^6} + \frac{6}{a^9} + \frac{1}{a^{12}}$

h) $x^5 - 5x^3 + 10x - \frac{10}{x} + \frac{5}{x^3} - \frac{1}{x^5}$

i) $\frac{1}{x^6} + \frac{6}{x^5y^2} + \frac{15}{x^4y^4} + \frac{20}{x^3y^6} + \frac{15}{x^2y^8} + \frac{6}{xy10} + \frac{1}{y12}$

j) $\frac{x^5}{32} + \frac{5x^3}{8} + 5x + \frac{20}{x} + \frac{40}{x^3} + \frac{32}{x^5}$

k) $64x^6 - 96x^5y + 60x^4y^2 - 20x^3y^3 + \frac{15}{4}x^2y^4 - \frac{3}{8}xy^5 + \frac{y^6}{64}$

l) $x^8 - 12x^5 + 54x^2 - \frac{108}{x} + \frac{81}{x^4}$

m) $\frac{1}{x^{10}} - \frac{5y^2}{x^8} + \frac{10y^4}{x^6} - \frac{10y^6}{x^4} + \frac{5y^8}{x^2} - y^{10}$

n) $\frac{1}{x^{10}} - \frac{5y^2}{x^8} + \frac{10y^4}{x^6} - \frac{10y^6}{x^4} + \frac{5y^8}{x^2} - y^{10}$

o) $x^3 + 6x^2y\sqrt{x} + 15x^2y^2 + 20xy^3\sqrt[2]{x} + 15xy^4 + 6y^5\sqrt[2]{x} + y^6$

p) $x^6 - 6x^5\sqrt[2]{y} + 15x^4y^2 - 20x^3y\sqrt[2]{y} + 15x^2y^2 - 6xy^2\sqrt[2]{y} + y^3$

q) $64x^6 - \frac{192x^5}{y^2} + \frac{240x^4}{y^4} - \frac{160x^3}{y^6} + \frac{60x^2}{y^8} + \frac{12x}{y^{10}} + \frac{1}{y^{12}}$

r) $x^6 - 4x^4\sqrt[2]{x} + 6x^3 - 4x\sqrt[2]{x} + 1$

s) $1 - 4\sqrt[2]{x} + 6x - 4x\sqrt[2]{x} + x^2$

t) $a^{10} + 5a^9b + \frac{45}{4}a^8b^2 + 15a^7b^3 + \frac{105}{8}a^6b^4 + \frac{63a^5b^5}{8} +$

$\frac{105}{32}a^4b^6 + \frac{15}{16}a^3b^7 + \frac{45}{256}a^2b^8 + \frac{5}{256}ab^9 + \frac{b^{10}}{1024}$

EJERCICIO IV - 5

a) 70

b) $145,152x^6y^3$

c) $165a^3$

d) $-\frac{63}{16}x^8$

e) $210a^4$

f) $495x^8y^{16}$

g) $-\frac{21}{x^{16}}$

h) $-\frac{792}{x^7}$

i) -252

j) $90,720\ x^4y^4$

k) $924\ a^6b^6$

l) $-160x^3y^3$

m) 70 ; $r = 5$

n) 84 ; $r = 7$

o) $\frac{63}{8}a^5b^5$; $r = 6$

p) $-\frac{5}{54}x^3y^3$; $r = 4$

EJERCICIO V - 1

1. a) 12
   b) 24

2. a) 20
   b) 25

3. a) 36
   b) 1920

4. a) 120
   b) 196

5. a) 60; b) 24
   c) 36; d) 12

6. a) 100
   b) 48

7. 9,000

8. 20

9. 96

10. 48

11. 60

12. 81

13. 16

14. 216

15. 32

16. 20

17. a) 90
    b) 100

18. a) 56
    b) 64

19. 625,000

20. 20 Mil Millones

EJERCICIO V - 2

1. a) 1
   b) 5
   c) 20
   d) 60
   e) 120
   f) 120
   g) 120
   h) n = 10

2. a) 900
   b) 600
   c) 999

3. a) 5,040
   b) 144

4. a) 720
   b) 1440

5. 103,680

6. a) 30,240
   b) 362,880

7. a) 120
   b) 625
   c) 24
   d) 6

8. 240

9. a) 90,000
   b) 1,000
   c) 45,000
   d) 18,000

10. a) 4,536
b) 2,240

11. 12,600

12. a) 210
b) 3,360
c) 34,650

13. a) 302,400
b) 20,160
c) 6,720

14. 369,600

15. 5,040

16. 1,440

17. 144

18. a) 720
b) 5,040

19. 24

20. a) 28,800
b) 2,880

EJERCICIO V - 3

1. a) 1
b) 5
c) 10
d) 10
e) 5
f) 1
g) si
h) n = 6

2. 20,475

3. 120

4. 45

5. 420

6. 210

7. 2,380

8. 56

9. 440

10. a) 91
b) 286
c) 66

11. 150

12. a) 84
b) 30

13. 20
16. 56
19. 219

14. 10
17. 175
20. 247

15. 77
18. 127

REFERENCIAS BIBLIOGRAFICAS

Fuller, Gordon, Algebra Elemental, CECSA, México 1986.

Hart William L., College Algebra, D.C., Heat & Co. Boston 1953.

Lara Aparicio Miguel, Antología de matemáticas, Lecturas Universitarias, UNAM, México 1971.

Lovaglia, Florence M., Algebra, Harla, S.A. de C.V., Harper & Row Latinoamericana, México 1972.

Northrop Eugene P., Paradojas matemáticas, UTEHA, México 1977.

Peters, Max William, Schaaf, Algebra y Trignometría, Editorial Reverté Mexicana, México 1973.

Rees, Paul K. – Sparks Fred W., Algebra. Editorial Reverté Mexicana, Mexico 1970.

Rees y Sparks, Algebra Contemporanea, Mc Graw – Hill, México 1980.

R. Spiegel Murray, Algebra Superior, Serie Schaum, Mc. Graw Hill, México 1970.

Turner, V. Dean – Prouse Howard I., Introducción a las matemáticas, Editorial Trillas, México 1975.

Vance, Elbridge P., Introducción a la Matemática moderna, Addison - Wesley Publishing Co., Massachusetts 1966.

Wells Webster, Advanced Course in Algebra, D.C. Heath & Co. Boston