Nombre del alumno: Andrea Melgar Vazquez

Nombre del trabajo: Actividad parcial 3

Materia: Bioestadístico

Grado: 4°

Probabilidad Condicional

a) Negativo >25 años

$$P(N / >25) \quad \frac{22}{140} = 0.1571 \qquad 15.71\%$$

$$+$$

$$P(>25) \quad \frac{22}{140} = 0.35 \qquad \frac{35\%}{50.71\%}$$

b) Positivo <25 años

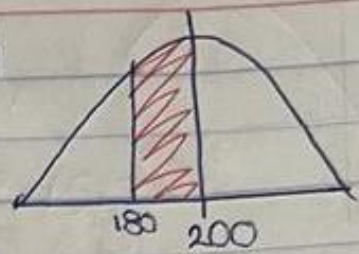$$P(P / <25) \quad \frac{75}{140} = 0.5357 \qquad 53.57\%$$

$$+$$

$$P(<25) \quad \frac{91}{140} = 0.65 \qquad \frac{65\%}{}$$

Distribución Normal

a) Entre 180 y 200 mg/100ml

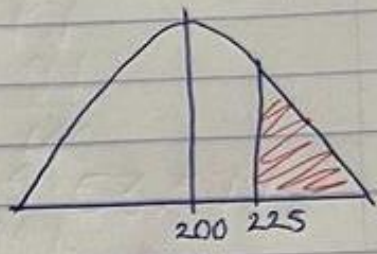$$Z = \frac{180-200}{20} = \frac{-20}{20} = 1 = 0.3413$$

$$Z = \frac{200-200}{20} = 0$$

39.13%

b) Mayor que 225 mg/100ml

$$Z = \frac{225-200}{20} = \frac{25}{20} = 1.25 = 0.3944$$

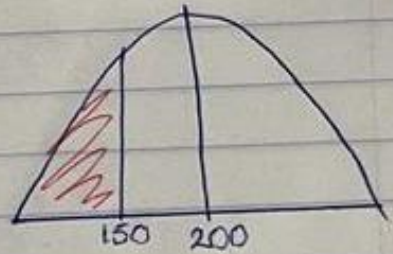$$\begin{array}{r} 39.44\% \\ - \quad 50 \\ \hline 10.56\% \end{array}$$

c) Menor que 150 mg/100ml

$$Z = \frac{150-200}{20} = \frac{-50}{20} = 2.5 - 0.4938$$

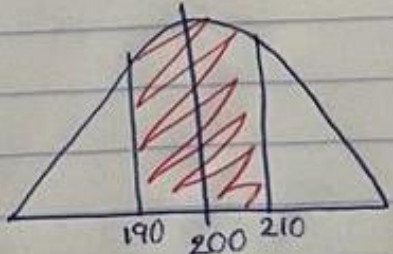$$\begin{array}{r} 49.38\% \\ + \quad 50 \\ \hline 99.38\% \end{array}$$

d) Entre 190 y 210 mg/100ml

$$Z = \frac{190-200}{20} = \frac{-10}{20} = 0.5 - 0.1915 - 19.15\%$$

$$Z = \frac{210-200}{20} = \frac{10}{20} = 0.5 - 0.1915 - 19.15\%$$

$$\left.\right\} \; 38.3\%$$

Distribución Poisson

a) $(x=3)$ $\dfrac{4^3 e^{-4}}{3!} = 0.1953$ 19.53%

b) $(x=5)$ $\dfrac{4^5 e^{-4}}{5!} = 0.1562$ 15.62%

Distribución binomial

a) En dos pacientes

$P(x=2)$ $\quad 10C_2 \,(0.15)^2 \,(0.85)^{10-2}$
$$= 0.2758 \quad 27.58\%$$

b) En ningún paciente

$P(x=0)$ $\quad 10C_0 \,(0.15)^0 \,(0.85)^{10-0}$
$$= 0.1968 \quad 19.68\%$$

c) En menos de 4 pacientes

$P(x=4)$ $\quad 10C_4 \,(0.15)^4 \,(0.85)^{10-4}$
$$= 0.0400 \quad 4\%$$

$P(x=3)$ $\quad 10C_3 \,(0.15)^3 \,(0.85)^{10-3}$
$$= 0.1298 \quad 12.98\%$$

$P(x=1)$ $\quad 10C_1 \,(0.15)^1 \,(0.85)^{10-1}$
$$= 0.3474 \quad 34.74\%$$

Suma total $= 98.98\%$

d) Entre dos y 5 pacientes

$P(x=5)$ $\quad 10C_5 \,(0.15)^5 \,(0.85)^{10-5}$
$$= 0.0084 \quad 0.84\%$$

Suma total $= 0.454 = 45.4\%$