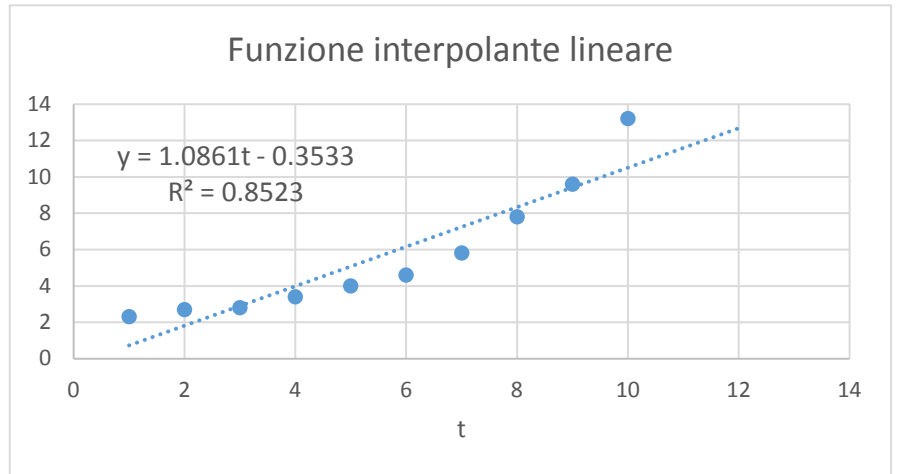


ESERCIZIO I

anno	t	yt
2004	1	2.3
2005	2	2.7
2006	3	2.8
2007	4	3.4
2008	5	4
2009	6	4.6
2010	7	5.8
2011	8	7.8
2012	9	9.6
2013	10	13.2



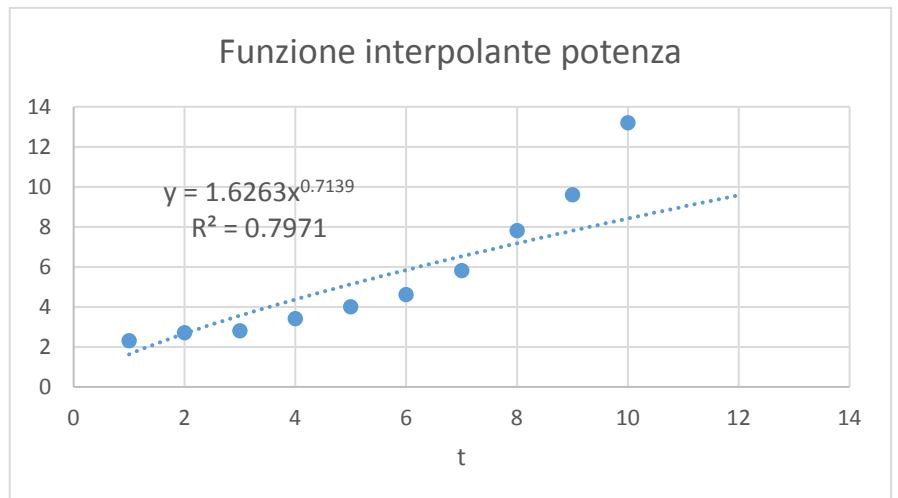
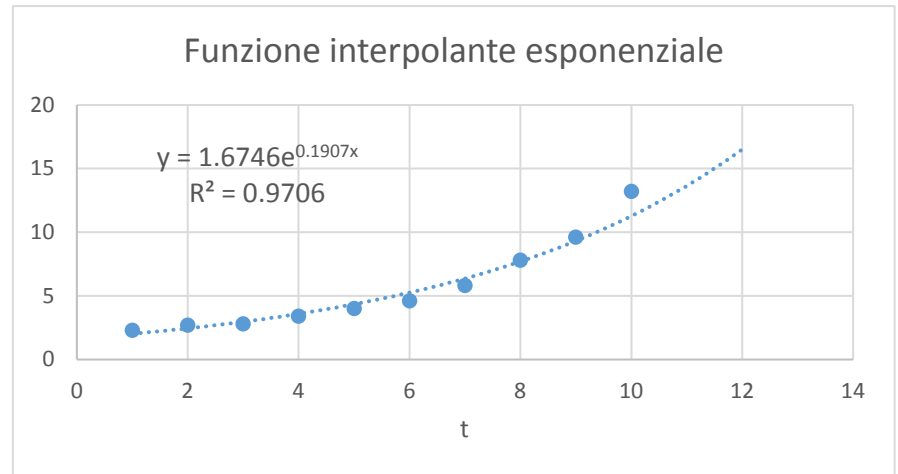
Migliore interpolante ==> esponenziale

Valore previsto al tempo t=11 (anno 2014)

11.59 Lineare

13.65 Esponenziale

9.01 Potenza



ESERCIZIO II

Informazioni note

$$P(X) = 0.25$$

$$P(X \cap Y) = 0.1$$

$$P(Y) = 0.3$$

$$P(X \cap Z) = 0.15$$

$$P(X \cap Y \cap Z) = 0.04$$

$$P(Z) = 0.45$$

$$P(Y \cap Z) = 0.12$$

$$P(Y \cup Z) = P(Y) + P(Z) - P(Y \cap Z) = 0.63$$

$$P(X \cup Y \cup Z) = 0.67$$

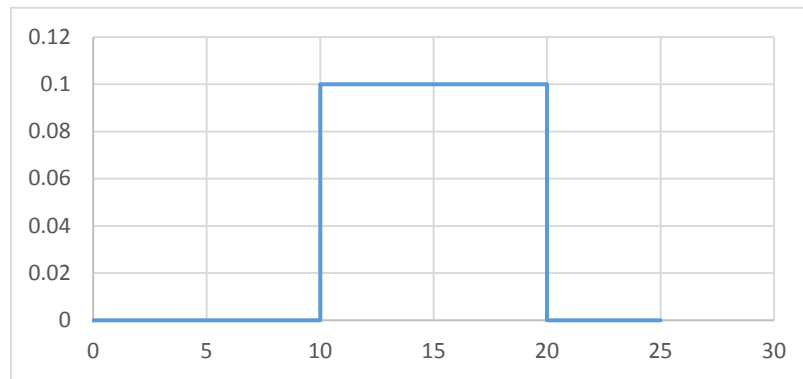
$$P(Y \cup Z) \cap X = P((Y \cap X) \cup (Z \cap X)) = P(Y \cap X) + P(Z \cap X) - P(X \cap Y \cap Z) = 0.21$$

ESERCIZIO III

$$k = 1/10$$

$$f(x) = 1/10 \quad x \text{ in } [10, 20]$$

Funzione di densità

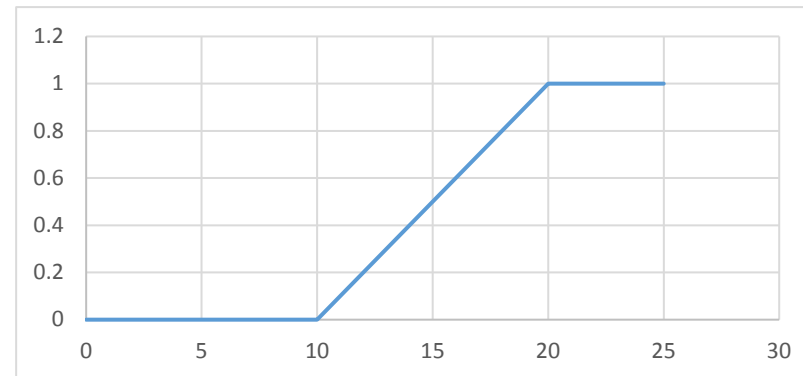


Funzione di ripartizione

$$0 \text{ per } x \leq 10$$

$$(x-10)/10 \text{ per } 10 \leq x \leq 20$$

$$1 \text{ per } x \geq 20$$



$$P(X < 13) = 0.3$$

$$P(12 < X < 14) = 0.2$$

$$\text{Primo quartile} = 12.5$$

$$x_{0.40} = 14$$

ESERCIZIO IV

$$p = 0.3485$$

$$s(p) = \sqrt{p(1-p)/n}$$

Dall'equazione

$$0.3485 + 2.06 \cdot \text{radq}(0.3485 \cdot (1 - 0.3485)/n) = 0.395$$

$$n = 445.6006$$

$$n \Rightarrow 446$$

Test ipotesi: $\pi_1 = \pi_2$

$$p_1 = 0.3485 \quad n_1 = 446$$

$$p_2 = 0.38 \quad n_2 = 100$$

$$p = 0.354269$$

$$s(DP) = 0.05292$$

$$Z(DP) = -0.59524$$

Il valore del test cade nella zona di accettazione

Pvalue =

$$0.551686$$

Interpolante lineare

	b	a
	1.086061	-0.35333
	0.159853	0.991862
R2	0.85229	1.451937
	46.16007	8
	97.31103	16.86497

	1.210128	1.674628
	0.011734	0.07281
	0.970608	0.106583
	264.1793	8
	3.001071	0.09088

0	0
10	0
10	0.1
20	0.1
20	0
25	0

0	0
10	0
20	1
25	1