Tema 2: GEOMETRIA ANALÍTICA AL PLA

Solucions

1. $A\vec{B} = (-3, 2)$ $\quad |A\vec{B}| = \sqrt{13}u$ $\quad \alpha_{AB} = 146{,}31º$ $\quad$ NW
   $B\vec{A} = (3, -2)$ $\quad |B\vec{A}| = \sqrt{13}u$ $\quad \alpha_{BA} = 146{,}31º$ $\quad$ SE

2. E = (2 , 7)

3. a) (-21,6) $\quad$ b) (16,-10)

4. m = $\frac{1}{2}$ $\quad$ n = $\frac{3}{2}$

5. $\vec{u} = 5\cdot\vec{x} + 3\cdot\vec{y}$

6. Si

7. Són linealment dependents per m = $-\frac{6}{7}$, per qualsevol valor diferent seran base.

8. k = qualsevol nombre

9. a) -5 $\quad$ b) 19

10. $\alpha = 108{,}43º$

11.
    a) $\vec{u}_1 = (-\frac{3}{\sqrt{34}}, \frac{5}{\sqrt{34}})$ $\quad \vec{u}_2 = (\frac{3}{\sqrt{34}}, -\frac{5}{\sqrt{34}})$
    b) $\vec{u}_1 = (3,5)$ $\quad \vec{u}_2 = (-3,-5)$
    c) $\vec{u}_1 = (-\frac{3}{\sqrt{34}}, -\frac{5}{\sqrt{34}})$ $\quad \vec{u}_2 = (\frac{3}{\sqrt{34}}, \frac{5}{\sqrt{34}})$

12. Dues parts M = (4 , $\frac{1}{2}$) $\quad$ Tres parts P = $(\frac{11}{3}, -\frac{1}{3})$ i Q = $(\frac{13}{3}, \frac{4}{3})$

13. No

14. D = (-8 , 5)

15. $\left.\begin{array}{l} x = 3 - k \\ y = 2 + 2k \end{array}\right\}$ No

16. y = -2x + 1

17. m = $\frac{5}{6}$ $y = \frac{5x + 10}{6}$ 5x-6y+10=0

18. No pertany P = (0 , - 4) i Q = (1 , - 1) $\vec{v} = (1,3)$

19. $\frac{x+7}{\sqrt{3}} = \frac{y-1}{1}$

20. $\frac{x+1}{1} = \frac{y-0}{1}$

21.

22. y = -3x +7 No

23. recta paral·lela: x + 2y + 1 = 0
recta perpendicular: 2x – y – 8 = 0

24. 4x – y = 0

25. 5x + 3y + 9 = 0

26. a) – x + 2y + 4 = 0 b) 2x + y – 12 = 0

27. a) n = - 6 b) n = $\frac{3}{2}$

28. a) Secants (10,17) b) Paral·leles c) Coincidents P = (2k-4 , k) k $\in$ |R

29. $\alpha = 81{,}87^{\circ}$

30. d(A,B)= $\sqrt{61}u$

31. $\frac{4}{\sqrt{13}}u$

32. $\frac{9}{\sqrt{10}}u$

33. n = 9 n = - 11

34. A = (0 , 2) B = $(\frac{14}{3},\frac{20}{3})$ C = $(\frac{6}{5},2)$ A = 7 u^2

35. a) 5x – 7y – 18 = 0 b) x – 3y – 2 = 0 c) 5x – 7y – 6 = 0

36. a) O = $(\frac{35}{17},\frac{3}{17})$

b)

37. B = $(\frac{16}{5},\frac{8}{5})$