

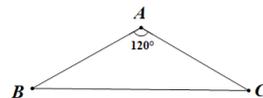
8 40

1. ()

A. \vec{AB} B. \vec{BA}

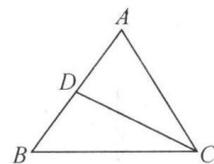
C. \vec{a} D. $\frac{\vec{a}}{|\vec{a}|}$

2. $\triangle ABC$ 120° $AB=1$ $\vec{AB} \cdot \vec{BC} = ()$



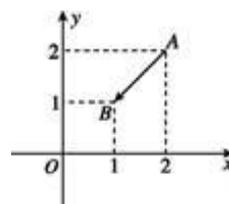
A. $-\frac{\sqrt{3}}{2}$ B. $\frac{\sqrt{3}}{2}$ C. $-\frac{3}{2}$ D. $\frac{3}{2}$

3. $\triangle ABC$ D AB $\vec{CD} = ()$



A. $\vec{BC} - \frac{1}{2}\vec{BA}$ B. $-\vec{BC} + \frac{1}{2}\vec{BA}$ C. $-\vec{BC} - \frac{1}{2}\vec{BA}$ D. $\vec{BC} + \frac{1}{2}\vec{BA}$

4. \vec{AB} ()



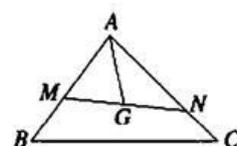
A. (2,2) B. (2,-2) C. (1,1) D. (-1,-1)

5. $\triangle ABC$ $\vec{AN} = \frac{1}{3}\vec{NC}$, P BN $\vec{AP} = m\vec{AB} + \frac{2}{11}\vec{AC}$ $m = ()$

A. $\frac{9}{11}$ B. $\frac{5}{11}$ C. $\frac{3}{11}$ D. $\frac{2}{11}$

6. G $\triangle ABC$ G (N C)

) $\vec{AB} = x\vec{AM}$, $\vec{AC} = y\vec{AN}$ $\frac{1}{x} + \frac{1}{y-1} = ()$



A. 2 B. $1 + \sqrt{2}$ C. $\frac{3}{2}$ D. $2\sqrt{2} + 2$

7. $\vec{AC} = \vec{e}_1 - k\vec{e}_2$, $\vec{CB} = 2\vec{e}_1 - \vec{e}_2$, $\vec{CD} = 3\vec{e}_1 - 2\vec{e}_2$, A, B, D

$k = ()$

A. 2 B. -3 C. -2 D. 3

8. 已知 P 是边长为 2 的正六边形 $ABCDEF$ 内的一点, 则 $\vec{AP} \cdot \vec{AB}$ 的取值范围是 ()

A. (-2,6) B. (-6,2) C. (-2,4) D. (-4,6)

4 20

9. ()

A. $\vec{a} \cdot \vec{b} = \vec{b} \cdot \vec{c}$ $\vec{a} = \vec{c}$ B. $\vec{a} // \vec{b}$ λ $\vec{a} = \lambda \vec{b}$

C. $\vec{a}, \vec{b} \quad |\vec{a}-\vec{b}|=|\vec{a}|+|\vec{b}| \quad \vec{a} \perp \vec{b}$

D. $\vec{a}=(1,2), \vec{b}=(1,1) \quad \vec{a} \perp \vec{a}+\lambda\vec{b} \quad \lambda \in (-\frac{5}{3}, +\infty)$

10. $\vec{a}, \vec{b}, \vec{c}$ ()

A. $\vec{a} \parallel \vec{b}, \vec{b} \parallel \vec{c} \Rightarrow \vec{a} \parallel \vec{c}$ B. $\vec{a}+\vec{b}+\vec{c}=\vec{0} \quad |\vec{a}|, |\vec{b}|, |\vec{c}|$

C. $\vec{a} \cdot (\vec{b} \cdot \vec{c}) \neq \vec{0}$ D. $\vec{a} \cdot [\vec{b} \cdot (\vec{a} \cdot \vec{c}) - \vec{c} \cdot (\vec{a} \cdot \vec{b})] = 0$

11. $\vec{a}=(\cos \alpha, \sin \alpha), \vec{b}=(\cos \beta, \sin \beta), \alpha, \beta \in (0, \pi) \quad \vec{a} \perp \vec{b}$ ()

A. $\alpha = \beta$ B. $\alpha = \beta + \frac{\pi}{2}$ C. $(\vec{a}+\vec{b}) \perp (\vec{a}-\vec{b})$ D. $|\vec{a}+\vec{b}|=|\vec{a}-\vec{b}|$

12. $\vec{a}=(m,n), \vec{b}=(p,q) \quad \vec{a} \odot \vec{b} = mq - np$ ()

A. $\vec{a} \odot \vec{b} = \vec{b} \odot \vec{a}$ B. $\vec{a} \odot \vec{b} = \vec{b} \odot \vec{a}$

C. $\lambda \in \mathbb{R} \quad (\lambda \vec{a}) \odot \vec{b} = \lambda(\vec{a} \odot \vec{b})$ D. $(\vec{a} \odot \vec{b})^2 + (\vec{a} \cdot \vec{b})^2 = |\vec{a}|^2 |\vec{b}|^2$

	1	2	3	4	5	6	7	8	9	10	11	12
	4	20										

13. $\vec{a}, \vec{b} \quad |\vec{a}|=|\vec{b}|=|\vec{a}-\vec{b}| \quad \frac{|\vec{a}+\vec{b}|}{|\vec{a}-\vec{b}|} = \underline{\hspace{2cm}}$

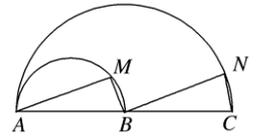


图 1

14. $\vec{a}, \vec{b} \quad (\vec{a}-2\vec{b}) \perp \vec{a}, (\vec{b}-2\vec{a}) \perp \vec{b}, \vec{a}, \vec{b}$ ()

15. $\triangle ABC \quad \vec{AP} = \lambda \vec{AB} + \vec{AC} \quad \vec{PB} \cdot \vec{PC} = 0 \quad \lambda = \underline{\hspace{2cm}}$

16. $1 \quad AC=2, B \text{ is midpoint of } AC \quad \vec{BM} \perp \vec{BN} \quad \vec{AM} \cdot \vec{CN} = \underline{\hspace{2cm}}$ ()

17. $\vec{m}=(2 \cos \omega x, -1), \vec{n}=(\sin \omega x - \cos \omega x, 2) \quad \omega > 0 \quad f(x) = \vec{m} \cdot \vec{n} + 3 \quad f(x)$

$\frac{\pi}{2}$

(1) $f(x)$

(2) $f(x) \quad \frac{\pi}{4} \quad \frac{1}{2} \quad g(x)$

$x \in [\frac{\pi}{6}, \frac{\pi}{2}] \quad g(x)$