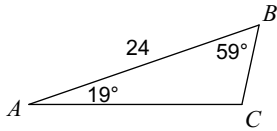


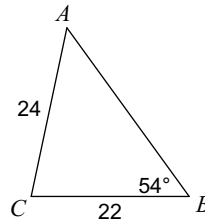
Test - Chapter 6

Find each measurement indicated. Round your answers to the nearest tenth.

1) Find AC



2) Find $m\angle A$

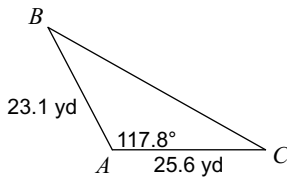


State the number of possible triangles that can be formed using the given measurements.

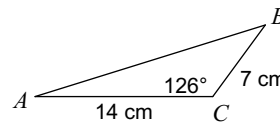
3) $m\angle B = 53^\circ$, $a = 32$ ft, $b = 30$ ft

Find each measurement indicated. Round your answers to the nearest tenth.

4) Find BC

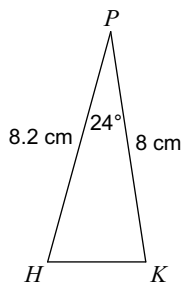


5) Find $m\angle A$

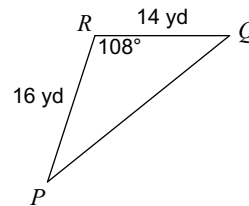


Find the area of each triangle to the nearest tenth.

6)



7)



Find the COMPONENT form and EXACT magnitude for the vector.

8) \overrightarrow{CD} where $C = (8, 10)$ $D = (-8, 5)$

Write each vector in component form. Find exact values if possible - or round to nearest hundredth if not exact.

9) \overrightarrow{CD} where $C = (6, -7)$ $D = (-4, -5)$

10) $|\vec{p}| = 63$, 111°

**Find the direction angle for each vector.
Round to nearest hundredth.**

11) \overline{CD} where $C = (-7, -5)$ $D = (-10, 2)$

Find the magnitude of the horizontal and vertical components of the vector. Round to 2 decimal places.

13) $|\vec{m}| = 17, 201^\circ$

Draw a diagram to illustrate the horizontal and vertical components of the vector.

12) $|\vec{a}| = 44, 190^\circ$

Find the component form of the resultant vector.

14) $\vec{a} = \langle 3, -3 \rangle$
 $\vec{g} = \langle -8, 4 \rangle$
Find: $-\vec{a} + \vec{g}$

Express the resultant vector as a linear combination of standard unit vectors i and j .

15) Given: $A = (3, 6)$ $B = (1, 3)$
 $C = (2, -5)$ $D = (7, -1)$
Find: $-\vec{AB} - \vec{CD}$

16) $\vec{u} = \vec{i} + 2\vec{j}$
 $\vec{g} = -10\vec{i} + 8\vec{j}$
Find: $-4\vec{u} - 8\vec{g}$

Find the dot product of the given vectors.

17) $\vec{u} = \langle 7, -1 \rangle$
 $\vec{v} = \langle 7, 9 \rangle$

18) $\vec{u} = \langle 4, 6 \rangle$
 $\vec{v} = \langle 9, -9 \rangle$

Find the measure of the angle between the two vectors. Round to one decimal place.

19) $\vec{u} = \langle 2, 8 \rangle$
 $\vec{v} = \langle 3, 6 \rangle$

Find the projection of u onto v .

20) $\vec{u} = \langle -8, -7 \rangle$
 $\vec{v} = \langle 2, 1 \rangle$

Write each in standard form.

21) $3\left(\cos \frac{3\pi}{2} + i\sin \frac{3\pi}{2}\right)$

Write each in trig. form.

22) $-\frac{3\sqrt{2}}{2} + \frac{3\sqrt{2}}{2}i$

Simplify. Write your answer in trig. form.

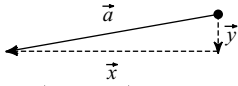
23) $3(\cos 60 + i\sin 60) \cdot \sqrt{3}(\cos 240 + i\sin 240)$

24) $(\sqrt{15}(\cos 300 + i\sin 300))^4$

Find all n th roots. Write your answers in trig. form.

25) $2(\cos 135 + i\sin 135), n = 4$

Answers to Test - Chapter 6 (ID: 1)

- | | | | |
|---|--|---------------------------------------|---|
| 1) 21 | 2) 47.9° | 3) Two triangles | 4) 41.7 yd |
| 5) 17.4° | 6) 13.3 cm^2 | 7) 106.5 yd^2 | 8) $\langle -16, -5 \rangle$
$\sqrt{281} \approx 16.763$ |
| 9) $\langle -10, 2 \rangle$ | 10) $\langle -22.58, 58.82 \rangle$ | 11) 113.2° | 12)  |
| 13) Horizontal: -15.87
Vertical: -6.09 | 14) $\langle -11, 7 \rangle$ | 15) $-3\vec{i} - \vec{j}$ | 16) $76\vec{i} - 72\vec{j}$ |
| 17) 40 | 18) -18 | 19) 12.53° | 20) $\left\langle -\frac{46}{5}, -\frac{23}{5} \right\rangle$ |
| 21) $-3i$ | 22) $3\left(\cos \frac{3\pi}{4} + i\sin \frac{3\pi}{4}\right)$ | 23) $3\sqrt{3}(\cos 300 + i\sin 300)$ | |
| 24) $225(\cos 1200 + i\sin 1200)$ | 25) $\sqrt[4]{2}\left(\cos \frac{135}{4} + i\sin \frac{135}{4}\right)$
$\sqrt[4]{2}\left(\cos \frac{495}{4} + i\sin \frac{495}{4}\right)$
$\sqrt[4]{2}\left(\cos \frac{855}{4} + i\sin \frac{855}{4}\right)$
$\sqrt[4]{2}\left(\cos \frac{1215}{4} + i\sin \frac{1215}{4}\right)$ | | |