

A2.A.57: Reference Angles: Sketch and use the reference angle for angles in standard position

- 1 Sin 190° is equal to
 - 1) $\sin 10^\circ$
 - 2) $\cos 10^\circ$
 - 3) $-\sin 10^\circ$
 - 4) $-\cos 10^\circ$
- 2 Which expression is equivalent to $\sin(200^\circ)$?
 - 1) $-\sin 20^\circ$
 - 2) $\cos 20^\circ$
 - 3) $\cos 70^\circ$
 - 4) $-\sin 70^\circ$
- 3 Expressed as a function of a positive acute angle, $\sin 230^\circ$ is equal to
 - 1) $-\sin 40^\circ$
 - 2) $-\sin 50^\circ$
 - 3) $\sin 40^\circ$
 - 4) $\sin 50^\circ$
- 4 The expression $\sin 240^\circ$ is equivalent to
 - 1) $\sin 60^\circ$
 - 2) $\cos 60^\circ$
 - 3) $-\sin 60^\circ$
 - 4) $-\cos 60^\circ$
- 5 Which expression is equivalent to $\sin(-120^\circ)$?
 - 1) $\sin 60^\circ$
 - 2) $-\sin 60^\circ$
 - 3) $\cos 30^\circ$
 - 4) $-\cos 60^\circ$
- 6 Expressed as a function of a positive acute angle, $\sin(-230^\circ)$ is equal to
 - 1) $\sin 50^\circ$
 - 2) $-\sin 50^\circ$
 - 3) $\cos 50^\circ$
 - 4) $-\cos 50^\circ$
- 7 Which expression is *not* equivalent to $\sin 150^\circ$?
 - 1) $\sin 30^\circ$
 - 2) $-\sin 210^\circ$
 - 3) $\cos 60^\circ$
 - 4) $-\cos 60^\circ$
- 8 Which expression is equivalent to $\cos 120^\circ$?
 - 1) $\cos 60^\circ$
 - 2) $\cos 30^\circ$
 - 3) $-\sin 60^\circ$
 - 4) $-\sin 30^\circ$
- 9 Two straight roads intersect at an angle whose measure is 125° . Which expression is equivalent to the cosine of this angle?
 - 1) $\cos 35^\circ$
 - 2) $-\cos 35^\circ$
 - 3) $\cos 55^\circ$
 - 4) $-\cos 55^\circ$
- 10 Expressed as a function of a positive acute angle, $\cos(-305^\circ)$ is equal to
 - 1) $-\cos 55^\circ$
 - 2) $\cos 55^\circ$
 - 3) $-\sin 55^\circ$
 - 4) $\sin 55^\circ$

- 11 The expression $\tan(-240^\circ)$ is equivalent to
- 1) $\tan 60^\circ$
 - 2) $-\tan 30^\circ$
 - 3) $-\tan 60^\circ$
 - 4) $\tan 30^\circ$
- 12 Expressed as a function of a positive acute angle, $\cot(-120)^\circ$ is equivalent to
- 1) $-\tan 60^\circ$
 - 2) $\cot 60^\circ$
 - 3) $-\cot 30^\circ$
 - 4) $\cot 30^\circ$
- 13 The expression $\cot(-200^\circ)$ is equivalent to
- 1) $-\tan 20^\circ$
 - 2) $\tan 70^\circ$
 - 3) $-\cot 20^\circ$
 - 4) $\cot 70^\circ$
- 14 Express $\sin(-170^\circ)$ as a function of a positive acute angle.
- 15 Express $\sin(-215^\circ)$ as a function of a positive acute angle.
- 16 Express $\cos(-155^\circ)$ as a function of a positive acute angle.
- 17 Express $\cos(-220^\circ)$ as a function of a positive acute angle.
- 18 Express $\tan 230^\circ$ as a function of a positive acute angle.
- 19 Express $\tan(-140^\circ)$ as a function of a positive acute angle.

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Answer Section

1 ANS: 3 REF: 068429siii

2 ANS: 1 REF: 088915siii

3 ANS: 2 REF: 081515a2

4 ANS: 3 REF: 010418siii

5 ANS: 2

The choices were originally: 1) $\sin 60^\circ$; 2) $-\sin 60^\circ$; 3) $\cos 30^\circ$; 4) $-\cos 30^\circ$, so that (2) and (4) were correct responses.

REF: 018919siii

6 ANS: 1 REF: 060503b

7 ANS: 4 REF: 010120siii

8 ANS: 4 REF: 060215siii

9 ANS: 4 REF: 080511b

10 ANS: 2

$$\cos(-305^\circ + 360^\circ) = \cos(55^\circ)$$

REF: 061104a2

11 ANS: 3 REF: 068535siii

12 ANS: 2 REF: 080330siii

13 ANS: 3 REF: 069933siii

14 ANS:

$$-\sin 10^\circ \text{ or } -\cos 80^\circ$$

REF: 068014siii

15 ANS:

$$\sin 35^\circ \text{ or } \cos 55^\circ$$

REF: 068617siii

16 ANS:

$$-\sin 65^\circ \text{ or } -\cos 25^\circ$$

REF: 088416siii

17 ANS:

$$-\cos 40^\circ \text{ or } -\sin 50^\circ$$

REF: 018406siii

18 ANS:

$$\tan 50^\circ \text{ or } \cot 40^\circ$$

REF: 068811siii

19 ANS:

$$\tan 40^\circ \text{ or } \cot 50^\circ$$

REF: 068912siii