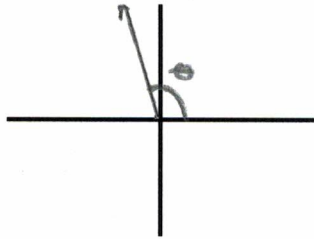


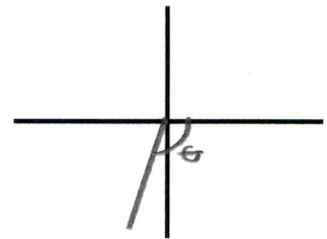
Section 7.1 – Practice Problems

Sketch the angles in Standard Position

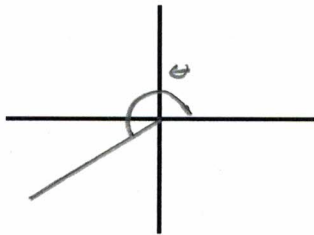
1. 110°



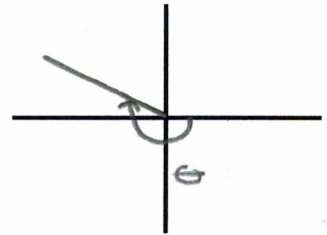
2. -110°



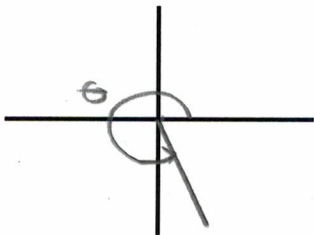
3. 220°



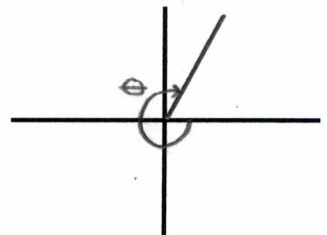
4. -220°



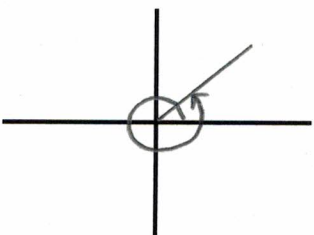
5. 290°



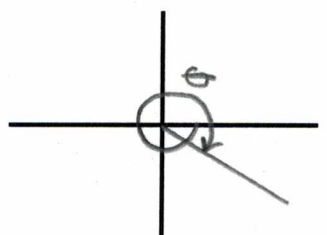
6. -290°



7. 400°



8. -400°



Find the angle of the smallest positive measure co-terminal to the given angle.

9. -30° $-30 + 360 = \boxed{330^\circ}$

10. -96° $-96 + 360 = \boxed{264^\circ}$

11. -197° $-197 + 360 = \boxed{163^\circ}$

12. -314° $-314 + 360 = \boxed{46^\circ}$

13. -127° $-127 + 360 = \boxed{233^\circ}$	14. 405° $405 - 360 = \boxed{45^\circ}$
15. 502° $502 - 360 = \boxed{142^\circ}$	16. 437° $437 - 360 = \boxed{77^\circ}$
17. 615° $615 - 360 = \boxed{255^\circ}$	18. -475° $-475 + 360 = -115$ $-115 + 360 = \boxed{245^\circ}$

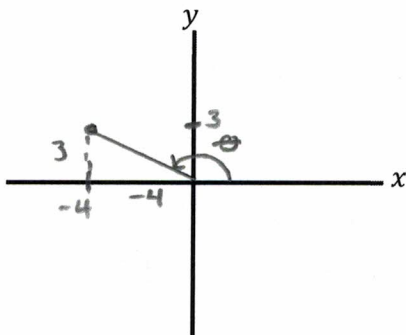
Draw an angle θ in Standard Position, where θ is the smallest measure, and the given point is on the end of the terminal arm. Then determine the length of the terminal arm

19. $(-4, 3)$

$$R^2 = (-4)^2 + 3^2$$

$$R^2 = 25$$

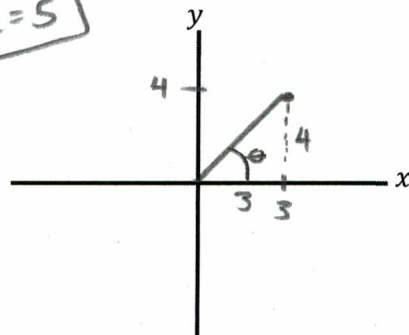
$$R = 5$$



20. $(3, 4)$

$$R = 3^2 + 4^2$$

$$R = 5$$

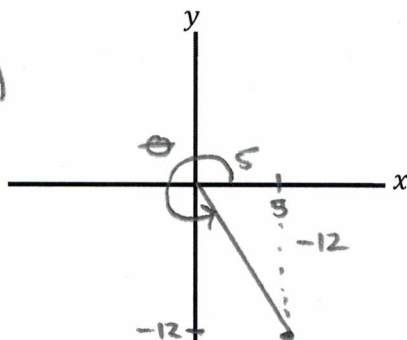


21. $(5, -12)$

$$R^2 = 5^2 + (-12)^2$$

$$R^2 = 169$$

$$R = 13$$

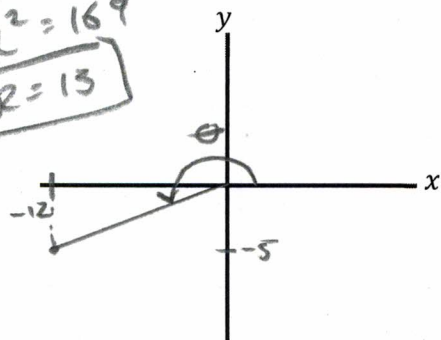


22. $(-12, -5)$

$$R^2 = (-12)^2 + (-5)^2$$

$$R^2 = 169$$

$$R = 13$$



Find the reference angle

23. 32°

Ref angle = 32°

24. -32°

32°

Q4 back to x-axis

25. 113°

Q2 $180 - 113$

67°

26. -113°

$-113^\circ = 247^\circ$ Q3

$247 - 180 = 67^\circ$

27. 218°

Q3

$218 - 180 = 38^\circ$

28. -218°

$-218 = 142^\circ$ Q2

$180 - 142 = 38^\circ$

29. 304°

Q4

$360 - 304 = 56^\circ$

30. -304°

$-304 = 56^\circ$ Q1

31. 832°

$832 = 112^\circ$

Q2

$180 - 112 = 68^\circ$

32. -1213°

$-1213 = 227^\circ$ Q3

$227 - 180 = 47^\circ$

Find all the angles, $0^\circ \leq \theta \leq 360^\circ$, that have reference angles of the following.

33. 37°

Q1: 37°

Q2: $180 - 37^\circ = 143^\circ$

Q3: $180 + 37^\circ = 217^\circ$

Q4: $360 - 37^\circ = 323^\circ$

34. 71°

Q1: 71°

Q2: $180 - 71^\circ = 109^\circ$

Q3: $180 + 71^\circ = 251^\circ$

Q4: $360 - 71^\circ = 289^\circ$

35. 0°

~~_____~~ 0°

~~_____~~

~~_____~~

~~_____~~ 180°

36. 90°

~~_____~~

~~_____~~ 90°

~~_____~~

~~_____~~ 270°

Answer Key – Section 7.1

1. <i>See Website</i>
2. <i>See Website</i>
3. <i>See Website</i>
4. <i>See Website</i>
5. <i>See Website</i>
6. <i>See Website</i>
7. <i>See Website</i>
8. <i>See Website</i>
9. 330°
10. 264°
11. 163°
12. 46°
13. 233°
14. 45°
15. 142°
16. 77°
17. 255°
18. 245°

19. <i>See Website</i>
20. <i>See Website</i>
21. <i>See Website</i>
22. <i>See Website</i>
23. 32°
24. 32°
25. 67°
26. 67°
27. 38°
28. 38°
29. 56°
30. 56°
31. 68°
32. 47°
33. $37^\circ, 143^\circ, 217^\circ, 323^\circ$
34. $71^\circ, 109^\circ, 251^\circ, 289^\circ$
35. $0^\circ, 180^\circ$
36. $90^\circ, 270^\circ$

Extra Work Space