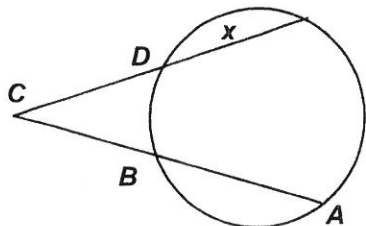


# PRECALCULUS AB PRECOMP REVIEW PROBLEM SET 1

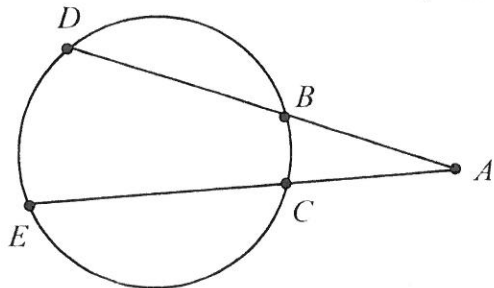
NAME: \_\_\_\_\_

PERIOD: \_\_\_\_\_

1. Find the value of  $x$  if  $AB = 15$ ,  $BC = 8$ , and  $CD = 7$ .

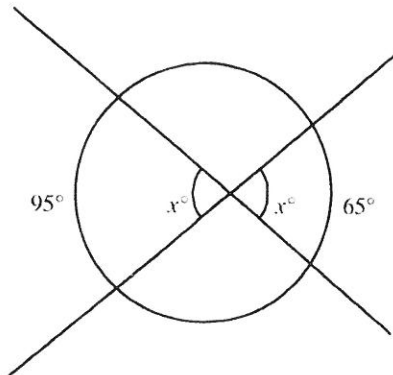


2. If  $m\widehat{DE} = 131$  and  $m\widehat{BC} = 69$ , find the measure of  $\angle A$ .



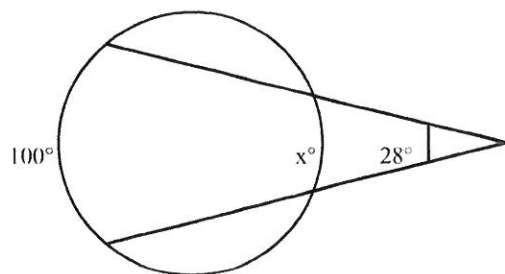
Find  $x$ .

- 3.

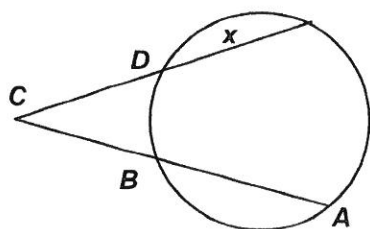


Find  $x$ .

4.



5. Find the value of  $x$  if  $AB = 18$ ,  $BC = 10$ , and  $CD = 9$ .



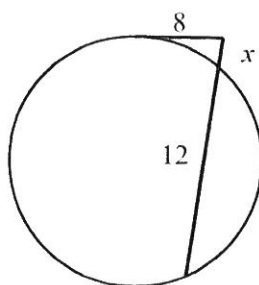
[A] 22.1

[B] 23.7

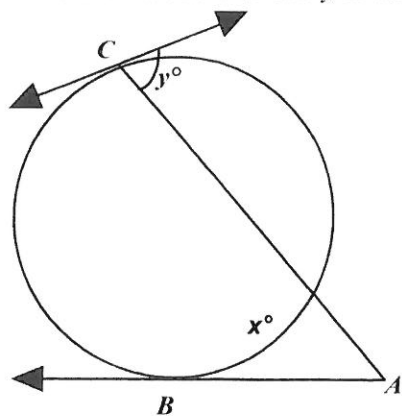
[C] 19.0

[D] 24.4

6. Solve for  $x$ .

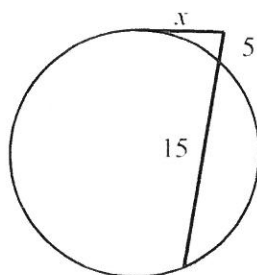


7. Find the values of  $x$  and  $y$  if  $m\angle A = 22$  and  $m\widehat{BC} = 106$ .



- [A] 84; 96      [B] 62; 192      [C] 84; 192      [D] 62; 96

8. Solve for  $x$ .      [A] 9      [B] 5      [C] 15      [D] 10



9. Write the equation of the line that passes through the point  $(-4, -2)$  and is perpendicular to  $-3x = -6y + 6$ .
10. Find the equation of the line that passes through the point  $(5, 1)$  and is parallel to the line  $3x - 5y = -2$ .

11. Find the equation of the line that passes through the point  $(2, -6)$  and is parallel to the line  $5x + 4y = 1$ .

[A]  $2x - 6y = 1$       [B]  $5x + 4y = -14$       [C]  $5x + 4y = -22$       [D]  $5x - 4y = 1$

12. Solve by completing the square:  $-2 + 2x^2 = -6x$

13. Solve by completing the square:  $-3 + x^2 = 2x$

14. Solve by completing the square:  $-5 + 3x^2 = -4x$

15. Solve by completing the square:  $4x^2 + 6x - 2 = 0$

[A]  $\frac{-3 \pm 2\sqrt{17}}{4}$       [B]  $\frac{3 \pm 2\sqrt{17}}{4}$       [C]  $\frac{3 \pm \sqrt{17}}{4}$       [D]  $\frac{-3 \pm \sqrt{17}}{4}$

16. Solve by completing the square:  $3x^2 - 4x - 2 = 0$

[A]  $\frac{2 \pm \sqrt{10}}{3}$       [B]  $\frac{-2 \pm \sqrt{10}}{3}$       [C]  $\frac{2 \pm 2\sqrt{10}}{3}$       [D]  $\frac{-2 \pm 2\sqrt{10}}{3}$

17. Find the sum of the measures of the interior angles of an octagon.

18. Find the measure of each exterior angle of a regular polygon with 18 sides.

[A]  $20^\circ$       [B]  $160^\circ$       [C]  $22^\circ$       [D]  $202^\circ$

19. Find the sum of the measures of the interior angles of a hexagon.

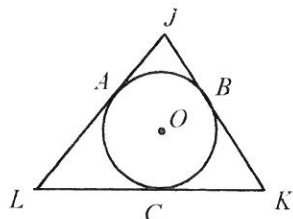
[A]  $360^\circ$

[B]  $540^\circ$

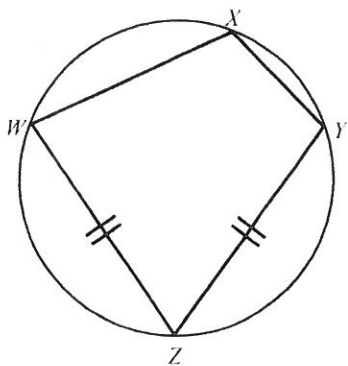
[C]  $900^\circ$

[D]  $720^\circ$

20. The triangle and the circle are tangent at three points as shown (not drawn to scale). If  $JA = 10$ ,  $AL = 14$ , and  $CK = 12$ , find the perimeter of  $\triangle JKL$ .



21. Given:  $m\angle X = 110$ ;  $\overline{WZ} \cong \overline{YZ}$ ;  $m\angle Y = 100$



Refer to the diagram to find the measure of each of the following:

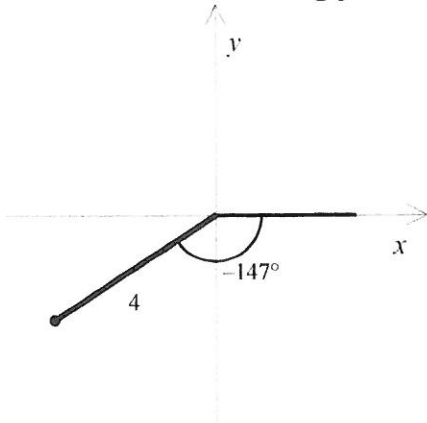
a)  $m\angle Z$

b)  $m\widehat{WZ}$

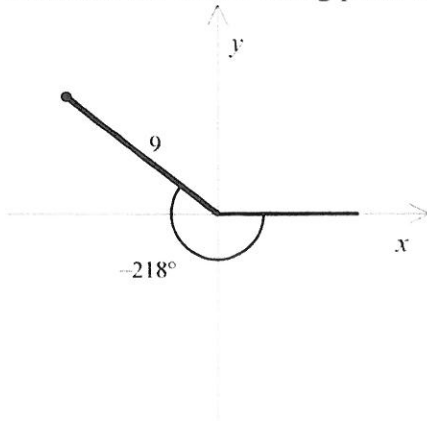
c)  $m\angle W$

d)  $m\widehat{WX}$

22. Describe the vector using polar notation.



23. Describe the vector using polar notation.



[A]  $(-9, 218^\circ)$  or  $9 \angle 218^\circ$

[B]  $(9, -218^\circ)$  or  $9 \angle -218^\circ$

[C]  $(9, 142^\circ)$  or  $9 \angle 142^\circ$

[D]  $(9, 38^\circ)$  or  $-9 \angle 38^\circ$

24. Convert  $-1.5i + 3.6j$  to polar coordinates. (Write four forms for the point.)

25. Convert  $3 \angle 30^\circ$  to rectangular coordinates.

26. Convert  $-1.3i - 8.4j$  to polar coordinates. (Write four forms for the point.)

[A]  $8.5 \angle 261.2^\circ$  ,  $-8.5 \angle 81.2^\circ$  ,  $8.5 \angle -98.8^\circ$  ,  $-8.5 \angle -278.8^\circ$

[B]  $8.5 \angle 8.8^\circ$  ,  $-8.5 \angle 188.8^\circ$  ,  $8.5 \angle -351.2^\circ$  ,  $-8.5 \angle -171.2^\circ$

[C]  $8.5 \angle 261.2^\circ$  ,  $-8.5 \angle 81.2^\circ$  ,  $8.5 \angle -351.2^\circ$  ,  $-8.5 \angle -171.2^\circ$

[D]  $8.5 \angle 8.8^\circ$  ,  $-8.5 \angle 188.8^\circ$  ,  $8.5 \angle -98.8^\circ$  ,  $-8.5 \angle -278.8^\circ$

27. Find the resultant of  $6 \angle 22^\circ + 4 \angle 40^\circ$ . Write the answer in polar coordinates.

28. Find the resultant of  $6 \angle 22^\circ + 8 \angle 155^\circ$ . Write the answer in polar coordinates.

29. Find the resultant of  $3 \angle 15^\circ + 4 \angle 28^\circ$ . Write the answer in polar coordinates.

[A]  $6.96 \angle 22.47^\circ$  [B]  $7.00 \angle 43.00^\circ$  [C]  $8.00 \angle 43.00^\circ$  [D]  $6.96 \angle 67.53^\circ$

30. Factor:  $15x^{3n+2} + 9x^{7n+1}$

31. Simplify by factoring the numerator:  $\frac{x^{12d} - y^{12d}}{x^{6d} + y^{6d}}$

32. Simplify by factoring the numerator:  $\frac{x^{8a} - y^{8a}}{x^{4a} + y^{4a}}$

33. Simplify by factoring the numerator:  $\frac{x^{6f} - y^{6f}}{x^{3f} + y^{3f}}$

[A]  $x^{3f} + y^{3f}$

[B]  $x^{3f} - y^{3f}$

[C]  $x^{2f} - y^{2f}$

[D]  $x^{2f} + y^{2f}$

34. Simplify by factoring the numerator:  $\frac{x^{12e} - y^{12e}}{x^{6e} - y^{6e}}$

[A]  $x^{2e} + y^{2e}$

[B]  $x^{6e} - y^{6e}$

[C]  $x^{6e} + y^{6e}$

[D]  $x^{2e} - y^{2e}$

Factor:

35.  $5x^5y^{12} - 40x^5z^9$

36.  $4x^5y^{12} + 500x^5z^6$

[A]  $4x^5(y^4 + 5z^2)(y^8 - 5y^4z^2 + 25z^4)$

[B]  $4x^5(y^4 + 5z^2)(y^8 + 10y^4z^2 + 25z^4)$

[C]  $4y^4 + 5z^2(y^4 + 20z^2)(4y^8 + 25z^2)$

[D]  $x^5(4y^4 + 5z^2)(y^4 + 20z^2)^2$