Summer Assignment Name_____

Algebra II to Precal, Cal, Trig

Date SY 2018-2019_____ Period____

State the quadrant in which the terminal side of each angle lies.

1) −296°

A) II B) I
C) IV D) III

2) 245°

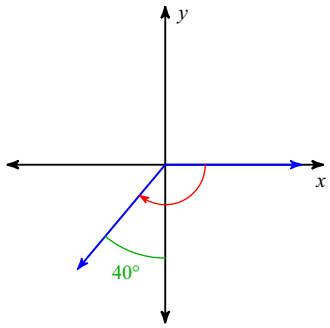
A) III B) I
C) IV D) II

3) 120°

A) I B) III
C) IV D) II

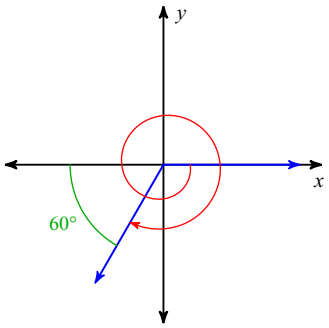
Find the measure of each angle.

4)



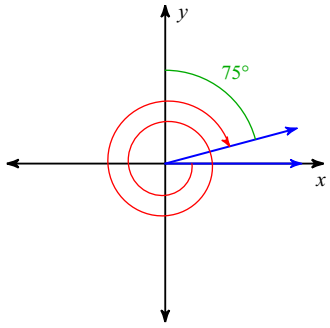
A) −130° B) 230°
C) −110° D) −230°

5)



A) −485° B) −500°
C) −510° D) −480°

6)

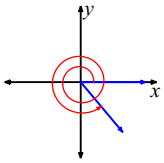


A) −690° B) −685°
C) 705° D) −705°

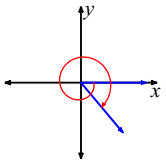
Draw an angle with the given measure in standard position.

7) 670°

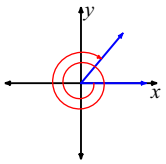
A)



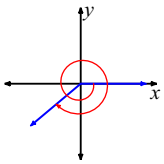
B)



C)

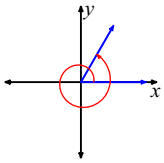


D)

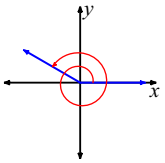


8) 600°

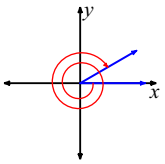
A)



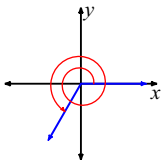
B)



C)



D)



Simplify each expression.

9) $-\frac{12x^3}{18x}$

A) $3x^2$ B) $-\frac{2x^2}{3}$

C) $\frac{1}{3x^2}$ D) $-\frac{3}{2x^2}$

10) $\frac{56x^2}{80x^4}$

A) $\frac{7}{10x^2}$ B) $\frac{3x^4}{4}$

C) $2x$ D) $\frac{4}{3x^4}$

11) $\frac{n+2}{4n^2+8n}$

A) $\frac{1}{4n}$ B) $\frac{2n+7}{9}$

C) $\frac{1}{n-2}$ D) $n-5$

12) $\frac{n^2+11n+18}{n+2}$

A) $\frac{1}{4n}$ B) $n-7$

C) $n+9$ D) $\frac{6n^2}{3n-4}$

13) $\dfrac{x^2 + x - 72}{x^2 + 15x + 54}$

A) $\dfrac{x-6}{x+7}$ B) $\dfrac{x-8}{x+6}$

C) $\dfrac{x+10}{x+1}$ D) $\dfrac{x+7}{x-6}$

14) $\dfrac{6k^2 + 9k}{9k^2 + 6k}$

A) $\dfrac{3k-7}{5k-3}$ B) $\dfrac{2k+3}{3k+2}$

C) $\dfrac{5k-3}{3k-7}$ D) $\dfrac{5}{8k}$

Factor each completely.

15) $r^4 + 10r^3 + 21r^2$

A) $r^2(r+7)(r+3)$
B) $r^2(r-4)(r+1)$
C) $r^2(r+7)(r-3)$
D) $(r-7)(r+3)$

16) $2n^2 - 24n + 64$

A) $2(n-3)(n-4)$
B) $(n-4)(n-8)$
C) $2(n-4)(n-8)$
D) $2(n-4)(n+8)$

17) $a^3 + 14a^2 + 40a$

A) $a(a+4)(a+10)$
B) $a(a-4)(a+10)$
C) $a(a+4)(a-10)$
D) $3(a-5)(a-1)$

18) $4r^2 + 8r - 12$

A) $4(r+1)(r-3)$
B) $4(r-1)(r-3)$
C) $4(r-1)(r+3)$
D) $2r(r+6)$

19) $30x^3 - 72x^2 + 24x$

A) $6(5x-2)(x+2)$
B) $6x(5x-2)(x-2)$
C) $6(5x+2)(x+2)$
D) $30(x-2)(x+2)$

20) $3n^2 - 38n + 80$

A) $(3n+80)(n+1)$
B) $(3n-8)(n-10)$
C) $(n-8)(3n+10)$
D) $(3n+2)(n+40)$

21) $32n^2 + 24n$

A) $16n(2n+1)$ B) $8n(4n+1)$

C) $8n(4n+3)$ D) $8n(4n-3)$

Evaluate each function at the given value.

22) $f(m) = m^3 + 6m^2 + 4m - 25$ at $m = -4$

A) -6 B) -11

C) -9 D) 1

23) $f(n) = n^3 + n^2 + 5$ at $n = -1$

A) 5 B) 7

C) -1 D) -4

Simplify.

24) $(4m^4)^{\frac{1}{2}}$

A) $2m^2$ B) $1000000m^6$
C) $9m^6$ D) m^3

25) $(8x^6)^{\frac{2}{3}}$

A) $4x^4$ B) x^{10}
C) $1000x^3$ D) $625x^4$

Simplify each expression.

26) $\frac{2b}{3} + \frac{b-1}{2b^2+10b}$

A) $\frac{4b^3+22b^2+13b-3}{6b(b+5)}$
B) $\frac{4b^3+22b^2+10b-3}{6b(b+5)}$
C) $\frac{4b^3+24b^2+20b-3}{6b(b+5)}$
D) $\frac{4b^3+20b^2+3b-3}{6b(b+5)}$

27) $\frac{3x}{3x^2-3x} + \frac{2x}{3}$

A) $\frac{5x}{3(x^2-x+1)}$
B) $\frac{3+2x^2-2x}{3(x-1)}$
C) $\frac{3+x^2-x}{3(x-1)}$
D) $\frac{5x-3}{2x(x-1)}$

28) $\frac{a-4}{a^2+a-12} + \frac{2}{a^2+a-12}$

A) $\frac{4a^2-7a+3}{36a^2+432a+1296}$
B) $\frac{2a-2}{a^2+a-12}$
C) $\frac{a-2}{a^2+a-12}$
D) $\frac{3a-2}{2a^2+a-24}$

29) $\frac{x+1}{9x^2-54x} - \frac{x-4}{9x^2-54x}$

A) $\frac{x-10}{4x+16}$ B) $\frac{3x-10}{4x+16}$
C) $\frac{5}{9x^2-54x}$ D) $\frac{x-5}{2x+8}$

Solve each equation. Remember to check for extraneous solutions.

30) $\frac{1}{n^2} = \frac{1}{3n^2} + \frac{5n-20}{3n^2}$

A) $\{4\}$ B) $\left\{-\frac{22}{5}\right\}$
C) $\left\{-\frac{22}{5}, 3\right\}$ D) $\left\{\frac{22}{5}\right\}$

31) $\frac{p-4}{3p} + \frac{1}{3p} = \frac{1}{p}$

A) $\{4\}$ B) $\{6\}$
C) $\left\{-\frac{17}{6}\right\}$ D) $\{-4\}$

Simplify each expression.

32) $-8n + 7n$

A) $-4n$ B) $-13n$
C) $-3n$ D) $-n$

33) $-6n + 8n$

A) $-12 - 11n$ B) $-12 - 5n$
C) $2n$ D) $12n$

34) $7x + 2x$

A) $x - 9$ B) $9x$
C) $12x$ D) $-7x - 9$

35) $-2(-10x - 3)$

A) $20x + 6$ B) $3 - 17x$
C) $3 - 25x$ D) $3 - 24x$

36) $-5(v - 3)$

A) $-5v + 15$ B) $-14v + 6$
C) $4v - 24$ D) $-4 - 12v$

37) $-3x - 4(x + 2)$

A) $-7x - 8$ B) $6 - 33x$
C) $-7x - 3$ D) $-8 + 7x$

38) $-10 + 5(2x + 8)$

A) $30 + 10x$ B) $15x + 21$
C) $27 + 10x$ D) $36 + 10x$

39) $\frac{11}{2}\left(\frac{47}{10}n - \frac{9}{5}\right) + \frac{7}{3}n$

A) $\frac{1}{3}n + \frac{29}{6}$

B) $-\frac{1031}{90} + \frac{1691}{60}n$

C) $\frac{1691}{60}n - \frac{99}{10}$

D) $-\frac{139}{10} + \frac{1691}{60}n$

Solve each equation.

40) $-216 = 4(8b + 2)$

A) No solution. B) $\{-8\}$
C) $\{-1\}$ D) $\{-7\}$

41) $-262 = -8(5 - 4m) + 2$

A) $\{9\}$ B) $\{15\}$
C) $\{-7\}$ D) $\{3\}$

42) $8(8r - 2) = 304$

A) $\{15\}$ B) $\{0\}$
C) $\{-1\}$ D) $\{5\}$

43) $-4\left(\frac{11}{3}a + \frac{4}{3}\right) = -\frac{368}{3}$

A) $\{8\}$ B) No solution.
C) $\{-2\}$ D) $\left\{\frac{5}{8}\right\}$

44) $\frac{493}{4} = 2\left(7p + \frac{31}{8}\right)$

A) $\left\{-3\frac{2}{15}\right\}$ B) $\left\{\frac{7}{6}\right\}$

C) $\left\{\frac{33}{4}\right\}$ D) $\left\{\frac{1}{5}\right\}$

Find all roots.

45) $x^3 + 3x^2 - 4x - 12 = 0$

A) $\{-3, 2, -2\}$
B) $\{-3, 2, -1\}$
C) $\{-3, -2, -1\}$
D) $\{-3, -2 \text{ mult. } 2\}$

46) $x^3 + 4x^2 + 3x = 0$

A) $\{0, -5, -1\}$
B) $\{0, -1 \text{ mult. } 2\}$
C) $\{0, -3, -1\}$
D) $\{0, -3 \text{ mult. } 2\}$

Solve each equation by factoring.

47) $x^2 + 7 = -8x$

A) $\{-6, 0\}$ B) $\{2, 3\}$
C) $\{1, 7\}$ D) $\{-1, -7\}$

48) $b^2 = -28 + 11b$

A) $\{1, 0\}$ B) $\{-7, -4\}$
C) $\{-4, -8\}$ D) $\{7, 4\}$

Simplify. Your answer should contain only positive exponents.

49) $4a^3 \cdot 2b$

A) $8a^3b$ B) $2b^5$
C) $12b^7a^4$ D) b^5a^2

50) $2x \cdot 4x^2$

A) $3x^4y^3$ B) $8x^3$
C) $48x^9y$ D) $\frac{8x^3}{y}$