

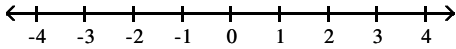
Review Topics

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

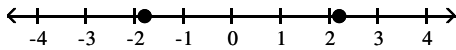
On the real number line, label the points with the given coordinates.

1) $\frac{11}{5}, -\frac{11}{5}$

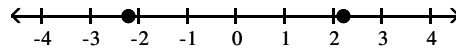
1) _____



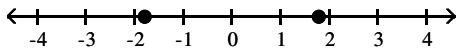
A)



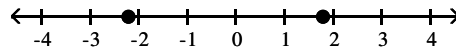
B)



C)

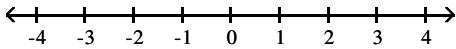


D)

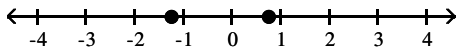


2) $\frac{5}{4}, -\frac{5}{4}$

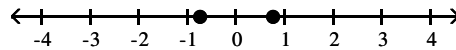
2) _____



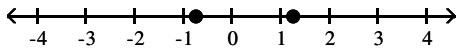
A)



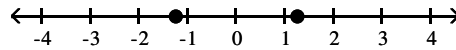
B)



C)



D)



Simplify the expression.

3) 4^{-3}

3) _____

A) -64

B) $\frac{1}{12}$

C) 64

D) $\frac{1}{64}$

4) $\sqrt{(-2)^2}$

4) _____

A) 16

B) $\frac{1}{4}$

C) 2

D) not a real number

The lengths of the sides of a triangle are given. Determine if the triangle is a right triangle. If it is, identify the hypotenuse.

5) 6, 7, 8

5) _____

A) right triangle; 6

B) right triangle; 8

C) right triangle; 7

D) not right triangle

Tell whether the expression is a polynomial. If it is, give its degree.

6) $7x^4 - 5$

- A) Polynomial; degree 5
C) Polynomial; degree 4

- B) Polynomial; degree 7
D) Not a polynomial

6) _____

Find the quotient and the remainder.

7) $48x^2 + 42x - 11$ divided by $6x$

A) $8x^2 + 7x - \frac{11}{6}$; remainder 0

B) $48x + 42$; remainder -11

C) $8x + 7$; remainder -11

D) $8x - 4$; remainder 0

7) _____

Factor completely. If the polynomial cannot be factored, say it is prime.

8) $9x^2 - 1$

A) $(3x + 1)^2$

B) $(3x - 1)(3x + 1)$

C) $(3x - 1)^2$

D) prime

8) _____

Use synthetic division to find the quotient and the remainder.

9) $x^2 + 13x + 28$ is divided by $x + 9$

A) $x + 4$; remainder 8

B) $x + 4$; remainder -8

C) $x + 5$; remainder 0

D) $x + 4$; remainder 0

9) _____

Use synthetic division to determine whether $x - c$ is a factor of the given polynomial.

10) $x^3 - 11x^2 + 20x + 96$; $x + 3$

A) Yes

B) No

10) _____

Reduce the rational expression to lowest terms.

11) $\frac{2x + 2}{10x^2 + 14x + 4}$

A) $\frac{2x + 2}{10x^2 + 14x + 4}$

B) $\frac{1}{5x + 2}$

C) $\frac{2x + 5}{5x + 14}$

D) $\frac{2x}{5x + 2}$

11) _____

Perform the indicated operations and simplify the result. Leave the answer in factored form.

12) $\frac{11}{12x} - \frac{1}{6x}$

A) $\frac{4}{3x}$

B) $\frac{3}{8x}$

C) 1

D) $\frac{3}{4x}$

12) _____

Find the LCM of the given polynomials.

13) $x^2 + 6x + 5$, $-5x - 5$

A) $-5(x + 5)(x + 1)$

B) $-5(x - 5)(x + 1)$

C) $-5(x - 5)(x - 1)$

D) $-5(x + 5)(x - 1)$

13) _____

14) $x^2 + 7x + 12$, $6x + 18$

A) $6(x + 4)(x - 3)$

B) $6(x - 4)(x + 3)$

C) $6(x + 4)(x + 3)$

D) $6(x - 4)(x - 3)$

14) _____

Simplify the expression. Assume that all variables are positive when they appear.

15) $\sqrt[3]{-27x^{18}y^{36}}$ 15) _____
 A) $-3x^6y^{12}$ B) $9x^6y^{12}$ C) $3x^6y^{12}$ D) $-3x^9y^{18}$

16) $\frac{2}{\sqrt{7}}$ 16) _____
 A) $\frac{4\sqrt{7}}{7}$ B) $\frac{2\sqrt{7}}{7}$ C) $2\sqrt{7}$ D) 51

Simplify the expression.

17) $\left(\frac{8}{27}\right)^{2/3}$ 17) _____
 A) $-\frac{4}{9}$ B) $\frac{3}{4}$ C) $\frac{4}{13}$ D) $\frac{4}{9}$

18) $-32^{-4/5}$ 18) _____
 A) $\frac{1}{16}$ B) 16
 C) $-\frac{1}{16}$ D) not a real number

Simplify the expression. Express the answer so that only positive exponents occur. Assume that all variables are positive.

19) $x^{3/8} \cdot x^{5/8}$ 19) _____
 A) $\frac{1}{x}$ B) x C) $x^{15/64}$ D) $x^{15/8}$

20) $\frac{(-2x^{4/5})^5}{x^{-4/7}}$ 20) _____
 A) $-32x^{32/7}$ B) $-32x^{24/7}$ C) $-2x^{24/7}$ D) $-2x^{32/7}$

Simplify the expression. Assume that all variables are positive when they appear.

21) $\frac{\sqrt{6}}{\sqrt{7}+8}$ 21) _____
 A) $\frac{\sqrt{42}-8\sqrt{6}}{-57}$ B) $\frac{\sqrt{42}-8\sqrt{6}}{15}$ C) $\frac{\sqrt{42}+8\sqrt{6}}{-57}$ D) $\frac{3\sqrt{42}+7\sqrt{6}}{56}$

22) $\frac{\sqrt{7}}{7\sqrt{5}-\sqrt{7}}$ 22) _____
 A) $\frac{\sqrt{35}+1}{36}$ B) $\frac{\sqrt{35}+1}{34}$ C) $\frac{\sqrt{5}+1}{34}$ D) $\frac{\sqrt{35}-1}{34}$

Find the real solutions of the equation.

23) $\sqrt[3]{1+x} = -1$ 23) _____
 A) {1} B) {-1} C) {-2} D) {2}

Simplify the expression. Assume that all variables are positive when they appear.

24) $\sqrt{\frac{18x^2y}{25}}$ 24) _____

A) $\frac{3x\sqrt{2y}}{5}$

B) $\frac{3\sqrt{2x^2y}}{5}$

C) $9x\sqrt{2y}$

D) $x\sqrt{\frac{18y}{5}}$

25) $(\sqrt{11} + 4)(\sqrt{11} - 4)$ 25) _____

A) 7

B) -5

C) $11 - 2\sqrt{4}$

D) 27

26) $(7\sqrt{2} - 8)^2$ 26) _____

A) $162 - 112\sqrt{2}$

B) $162 + 112\sqrt{2}$

C) $90 - 112\sqrt{2}$

D) $34 - 112\sqrt{2}$

Find the LCM of the given polynomials.

27) $x - 15, 15 - x$ 27) _____

A) $(x - 15)$ or $(15 - x)$

B) $x + 15$

C) $(x - 15)(15 - x)$

D) -1

Perform the indicated operations and simplify the result. Leave the answer in factored form.

28) 28) _____

$$\frac{\frac{10}{x} + 1}{\frac{10}{x} - 1}$$

$$\frac{10}{x} - 1$$

A) 10

B) $\frac{10 + x}{10 - x}$

C) $x^2 + 10$

D) $\frac{x^2}{x^2 + 10}$

29) 29) _____

$$9 + \frac{3}{x}$$

$$\frac{x}{4} + \frac{1}{12}$$

A) $\frac{36}{x}$

B) 36

C) 1

D) $\frac{x}{36}$

30) 30) _____

$$\frac{\frac{3}{x+7} + \frac{6}{x+5}}{\frac{3x+19}{x^2+12x+35}}$$

$$\frac{3x+19}{x^2+12x+35}$$

A) 3

B) 9

C) $3x + 19$

D) $\frac{1}{3}$

Solve the equation.

31) $\frac{8}{9}x = -\frac{2}{3}$ 31) _____

- A) $\left\{\frac{3}{4}\right\}$ B) $\left\{-\frac{3}{4}\right\}$ C) $\left\{-\frac{4}{3}\right\}$ D) $\{6\}$

32) $4(2x - 2) = 7(x + 3)$ 32) _____

- A) $\{-29\}$ B) $\{-13\}$ C) $\{17\}$ D) $\{29\}$

33) $\frac{1}{4} - \frac{1}{2}x = \frac{17}{8}$ 33) _____

- A) $\left\{\frac{15}{4}\right\}$ B) $\left\{-\frac{15}{4}\right\}$ C) $\left\{\frac{15}{2}\right\}$ D) $\left\{-\frac{15}{2}\right\}$

34) $\frac{5}{2x - 2} = \frac{3}{x + 4}$ 34) _____

- A) $\{-26\}$ B) $\{-14\}$ C) $\{17\}$ D) $\{26\}$

35) $\frac{-2}{x + 7} = \frac{7}{x + 14} - \frac{14}{(x + 7)(x + 14)}$ 35) _____

- A) $\{-14\}$ B) $\{-7\}$ C) $\{-7, -14\}$ D) no real solution

36) $t^3 - 6t^2 = 0$ 36) _____

- A) $\{0, -6\}$ B) $\{-6\}$ C) $\{6\}$ D) $\{0, 6\}$

37) $|6x + 9| = 5$ 37) _____

- A) $\left\{-\frac{2}{3}, -\frac{7}{3}\right\}$ B) $\left\{\frac{2}{3}, \frac{7}{3}\right\}$ C) $\left\{-\frac{4}{9}, -\frac{14}{9}\right\}$ D) no solution

38) $|2(x + 1) + 4| = 8$ 38) _____

- A) $\{-7, 0\}$ B) $\{-5, 3\}$ C) $\{-5, 0\}$ D) $\{-7, 1\}$

Solve the equation by factoring.

39) $x^2 - 100 = 0$ 39) _____

- A) $\{100\}$ B) $\{10\}$ C) $\{10, -10\}$ D) $\{-10\}$

40) $25x^2 - 60x + 36 = 0$ 40) _____

- A) $\left\{-\frac{6}{5}\right\}$ B) $\left\{\frac{5}{6}\right\}$ C) $\left\{\frac{6}{5}\right\}$ D) $\left\{-\frac{5}{6}\right\}$

41) $6x + \frac{15}{x} = -21$ 41) _____

- A) $\left\{-1, -\frac{5}{2}\right\}$ B) $\left\{1, \frac{5}{2}\right\}$ C) $\left\{6, \frac{2}{5}\right\}$ D) $\left\{-1, \frac{5}{2}\right\}$

$$42) \frac{x-6}{x} = \frac{35}{x+6}$$

A) {6, -1}

B) {36, 1}

C) {36, -1}

D) {6, 1}

42) _____

Solve the equation by the Square Root Method.

$$43) (2x - 5)^2 = 81$$

A) {4, -14}

B) {14, -4}

C) {7, -2}

D) {2, -7}

43) _____

What number should be added to complete the square of the expression?

$$44) x^2 - 8x$$

A) 32

B) 8

C) -4

D) 16

44) _____

$$45) x^2 + \frac{5}{6}x$$

A) $\frac{25}{144}$

B) $\frac{1}{6}$

C) $\frac{25}{36}$

D) $\frac{25}{72}$

45) _____

Solve the equation by completing the square.

$$46) x^2 + 10x + 3 = 0$$

A) $\{5 + \sqrt{22}\}$

B) $\{-5 - \sqrt{22}, -5 + \sqrt{22}\}$

C) $\{5 - \sqrt{3}, 5 + \sqrt{3}\}$

D) $\{-10 + \sqrt{3}\}$

46) _____

$$47) 5x^2 - 2x - 4 = 0$$

A) $\{-4, \frac{22}{5}\}$

B) $\{\frac{-1 - \sqrt{21}}{5}, \frac{-1 + \sqrt{21}}{5}\}$

C) $\{\frac{5 - \sqrt{21}}{25}, \frac{5 + \sqrt{21}}{25}\}$

D) $\{\frac{1 - \sqrt{21}}{5}, \frac{1 + \sqrt{21}}{5}\}$

47) _____

Find the real solutions, if any, of the equation. Use the quadratic formula.

$$48) x^2 + 8x - 5 = 0$$

A) $\{4 + \sqrt{21}\}$

B) $\{-4 - \sqrt{21}, -4 + \sqrt{21}\}$

C) $\{-4 - 2\sqrt{21}, -4 + 2\sqrt{21}\}$

D) $\{-1 - \sqrt{21}, -1 + \sqrt{21}\}$

48) _____

$$49) 6x = 7x^2$$

A) $\{0, -\frac{6}{7}\}$

B) $\{\frac{6}{7}, -\frac{6}{7}\}$

C) $\{0, \frac{6}{7}\}$

D) {0}

49) _____

$$50) 2x^2 = -12x - 1$$

A) $\{\frac{-12 - \sqrt{34}}{2}, \frac{-12 + \sqrt{34}}{2}\}$

B) $\{\frac{-6 - \sqrt{34}}{4}, \frac{-6 + \sqrt{34}}{4}\}$

C) $\{\frac{-6 - \sqrt{38}}{2}, \frac{-6 + \sqrt{38}}{2}\}$

D) $\{\frac{-6 - \sqrt{34}}{2}, \frac{-6 + \sqrt{34}}{2}\}$

50) _____

Find the LCM of the given polynomials.

51) $x - 10, 10 - x$

A) -1

C) $(x - 10)(10 - x)$

B) $x + 10$

D) $(x - 10)$ or $(10 - x)$

51) _____

Perform the indicated operations and simplify the result. Leave the answer in factored form.

52)

$$\frac{\frac{9}{x} + 1}{\frac{9}{x} - 1}$$

A) $\frac{x^2}{x^2 + 9}$

B) $\frac{9 + x}{9 - x}$

C) $x^2 + 9$

D) 9

52) _____

53)

$$\frac{4 + \frac{2}{x}}{\frac{x}{4} + \frac{1}{8}}$$

A) $\frac{16}{x}$

B) 1

C) $\frac{x}{16}$

D) 16

53) _____

54)

$$\frac{\frac{5}{x+5} + \frac{15}{x+3}}{\frac{2x+9}{x^2+8x+15}}$$

A) $\frac{1}{10}$

B) 20

C) $2x + 9$

D) 10

54) _____

Solve the equation.

55) $-\frac{5}{6}x = \frac{2}{5}$

A) $\left\{\frac{12}{25}\right\}$

B) $\left\{\frac{12}{5}\right\}$

C) $\left\{-\frac{12}{25}\right\}$

D) $\left\{-\frac{25}{12}\right\}$

55) _____

56) $3(2x - 3) = 5(x + 3)$

A) $\{-6\}$

B) $\{24\}$

C) $\{9\}$

D) $\{-24\}$

56) _____

57) $\frac{1}{2} + \frac{1}{5}x = \frac{21}{10}$

A) $\{-8\}$

B) $\{8\}$

C) $\left\{\frac{16}{5}\right\}$

D) $\left\{-\frac{16}{5}\right\}$

57) _____

58) $\frac{9}{2x-3} = \frac{5}{x+3}$ 58) _____

- A) {17} B) {42} C) {-42} D) {-12}

59) $\frac{5}{x+8} = \frac{2}{x+16} - \frac{-40}{(x+8)(x+16)}$ 59) _____

- A) {-16} B) {-8} C) {-8, -16} D) no real solution

60) $t^3 - 9t^2 = 0$ 60) _____

- A) {9} B) {-9} C) {0, -9} D) {0, 9}

Perform the indicated operations and simplify the result. Leave the answer in factored form.

61) $\frac{6}{x} + \frac{8}{x-5}$ 61) _____

- A) $\frac{14x-30}{x(x-5)}$ B) $\frac{30x-14}{x(5-x)}$ C) $\frac{14x-30}{x(5-x)}$ D) $\frac{30x-14}{x(x-5)}$

62) $\frac{x-9}{x-1} - \frac{x-9}{x-6}$ 62) _____

- A) $\frac{5(x-9)}{(x-1)(x-6)}$ B) $\frac{-5(x-9)}{(x-1)(x-6)}$ C) $\frac{-7(x-9)}{(x-1)(x-6)}$ D) 0

Reduce the rational expression to lowest terms.

63) $\frac{y^2+5y+6}{y^2+11y+18}$ 63) _____

- A) $\frac{5y+6}{11y+18}$ B) $\frac{y+3}{y+9}$ C) $-\frac{y^2+5y+6}{y^2+11y+18}$ D) $\frac{5y+1}{11y+3}$

Perform the indicated operations and simplify the result. Leave the answer in factored form.

64) $\frac{4x-4}{x} \cdot \frac{9x^2}{8x-8}$ 64) _____

- A) $\frac{32x^2+64x+32}{9x^3}$ B) $\frac{36x^3-36x^2}{8x^2-8x}$ C) $\frac{9x}{2}$ D) $\frac{2}{9x}$

65) $\frac{x^2-4}{7x+14} \cdot \frac{x-5}{x-2}$ 65) _____

- A) $\frac{(x-5)(x-2)}{7(x+2)}$ B) $\frac{1}{7}$ C) $\frac{x-5}{7}$ D) $x-5$

66)

$$\frac{\frac{5x-5}{x}}{\frac{8x-8}{5x^2}}$$

A) $\frac{25x}{8}$

B) $\frac{25x^2(x-1)}{8x(x-1)}$

C) $\frac{8}{25x}$

D) $\frac{40(x+1)^2}{5x^3}$

66) _____

67)

$$\frac{\frac{x^2-12x+36}{7x-42}}{\frac{4x-24}{28}}$$

A) 28

B) $\frac{(x-6)^2}{49}$

C) 1

D) $\frac{x^2-12x+36}{(x-6)^2}$

67) _____

Use synthetic division to find the quotient and the remainder.

68) $x^5 + 8x^4 + 15x^3 + 21x^2 + 15x - 16$ is divided by $x + 6$

A) $x^4 + 2x^3 + 3x^2 + 3x + 3$; remainder 4

B) $x^3 + 2x^2 + 3x + 3$; remainder 2

C) $x^4 + 2x^3 + 3x^2 + 3x + 2$; remainder 0

D) $x^4 + 2x^3 + 3x^2 + 3x - 3$; remainder 2

68) _____

Factor completely. If the polynomial cannot be factored, say it is prime.

69) $x^2 + 16x + 64$

A) $(x+8)(x-8)$

B) $(x-8)^2$

C) $x^2 + 16x + 64$

D) $(x+8)^2$

69) _____

70) $10x^2 + 21x + 9$

A) $(10x+3)(x+3)$

B) $(2x-3)(5x-3)$

C) $(2x+3)(5x+3)$

D) prime

70) _____

71) $(x+1)^2 - 9$

A) $(x+10)(x-8)$

B) $x^2 + 2x - 8$

C) $(x+4)(x-2)$

D) $(x+2)(x-4)$

71) _____

Find the quotient and the remainder.

72) $6x^2 + 17x - 28$ divided by $x + 4$

A) $6x - 7$; remainder 0

B) $6x - 7$; remainder 7

C) $x - 7$; remainder 0

D) $6x + 7$; remainder 0

72) _____

73) $x^4 + 6x^2 + 7$ divided by $x^2 + 1$

A) $x^2 + 5$; remainder 2

B) $x^2 + 5x + 1$; remainder 2

C) $x^2 + 5$; remainder 0

D) $x^2 + 5x + \frac{1}{2}$; remainder 0

73) _____

Tell whether the expression is a polynomial. If it is, give its degree.

74) $7x^2 - \frac{4}{x}$

74) _____

- A) Polynomial; degree 2
C) Polynomial; degree -1

- B) Polynomial; degree 1
D) Not a polynomial

Add, subtract, or multiply, as indicated. Express your answer as a single polynomial in standard form.

75) $(-9x^2 + 4) - (-x^3 - 2x^2 + 3)$

75) _____

- A) $x^3 - 7x^2 + 1$ B) $-8x^3 + 2x^2 - 3$ C) $-8x^3 - 2x^2 + 1$ D) $x^3 - 11x^2 + 7$

76) $8(1 - y^3) + 5(1 + y + y^2 + y^3)$

76) _____

- A) $3y^3 + 5y^2 + 5y + 13$ B) $-3y^3 - 5y^2 + 5y - 13$
C) $-3y^3 + 5 - 5y^2 + 5y + 13$ D) $-3y^3 + 5y^2 + 5y + 13$

Multiply the polynomials using the special product formulas. Express the answer as a single polynomial in standard form.

77) $(2x - 10)(2x + 10)$

77) _____

- A) $4x^2 - 40x - 100$ B) $4x^2 + 40x - 100$ C) $4x^2 - 100$ D) $2x^2 + 40x - 100$

78) $(9x - 11)^2$

78) _____

- A) $9x^2 + 121$ B) $9x^2 - 198x + 121$
C) $81x^2 - 198x + 121$ D) $81x^2 + 121$

79) $(2x + 5)^3$

79) _____

- A) $4x^6 + 10x^3 + 15,625$ B) $8x^3 + 60x^2 + 150x + 125$
C) $4x^2 + 20x + 25$ D) $8x^3 + 60x^2 + 60x + 125$

Solve. Use the fact that the radius of the Earth is 3960 miles and 1 mile = 5280 feet.

80) A person who is 6 feet tall is standing on the beach and looks out onto the ocean. Suddenly, a ship appears on the horizon. How far is the ship from the shore? Round to the nearest tenth of a mile.

80) _____

- A) 5600.3 mi B) 4.2 mi C) 3 mi D) 218.1 mi

Solve the problem.

81) Find the area A of a triangle with height 5 in and base 8 in.

81) _____

- A) $A = 40 \text{ in}^2$ B) $A = 20 \text{ in}^2$ C) $A = 40 \text{ in}$ D) $A = 20 \text{ in}$

82) Find the area A and circumference C of a circle of radius 9 yd. Express the answer in terms of π .

82) _____

- A) $A = 18\pi \text{ yd}^2$; $C = 18\pi \text{ yd}$ B) $A = 324\pi \text{ yd}^2$; $C = 9\pi \text{ yd}$
C) $A = 81\pi \text{ yd}^2$; $C = 18\pi \text{ yd}$ D) $A = 36\pi \text{ yd}^2$; $C = 9\pi \text{ yd}$

83) Find the volume V of a rectangular box with length 4 ft, width 7 ft, and height 5 ft.

83) _____

- A) $V = 175 \text{ ft}^3$ B) $V = 80 \text{ ft}^3$ C) $V = 196 \text{ ft}^3$ D) $V = 140 \text{ ft}^3$

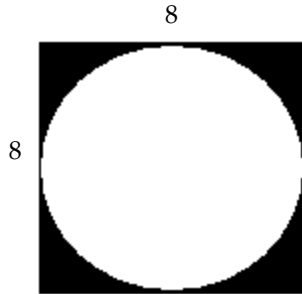
84) Find the volume V of a right circular cylinder with radius 14 cm and height 17 cm. Express the answer in terms of π .

84) _____

- A) $V = 238\pi \text{ cm}^3$ B) $V = 119\pi \text{ cm}^3$ C) $V = 3332\pi \text{ cm}^3$ D) $V = 833\pi \text{ cm}^3$

85) Find the area of the shaded region. Express the answer in terms of π .

85) _____



- A) $256 - 64\pi$ square units
- C) $16\pi + 64$ square units

- B) $64 - 32\pi$ square units
- D) $64 - 16\pi$ square units

86) A rectangular patio has dimensions 10 feet by 15 feet. The patio is surrounded by a border with a uniform width of 2 feet. Find the area of the border.

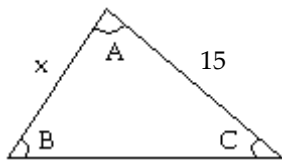
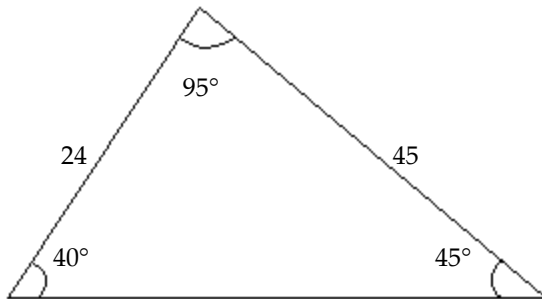
86) _____

- A) 116 ft^2
- B) 84 ft^2
- C) 158 ft^2
- D) 54 ft^2

The triangles are similar. Find the missing length x and the missing angles A, B, C.

87)

87) _____



- A) $x = 24$ units; $A = 40^\circ$; $B = 95^\circ$; $C = 45^\circ$
- C) $x = 8$ units; $A = 95^\circ$; $B = 40^\circ$; $C = 45^\circ$

- B) $x = 8$ units; $A = 45^\circ$; $B = 40^\circ$; $C = 95^\circ$
- D) $x = 24$ units; $A = 95^\circ$; $B = 40^\circ$; $C = 45^\circ$

Solve. If necessary, round to the nearest tenth.

88) If a flagpole 21 feet tall casts a shadow that is 28 feet long, find the length of the shadow cast by an antenna which is 27 feet tall.

88) _____

- A) 21.8 ft
- B) 34 ft
- C) 20.3 ft
- D) 36 ft

Use a calculator to evaluate the expression. Round the answer to three decimal places.

89) $(1.11)^{-3}$

89) _____

- A) 0.731
- B) 1.368
- C) -1.368
- D) -0.731

Simplify the expression.

90) $5^{-7} \cdot 5^5$ 90) _____
A) $\frac{1}{25}$ B) 25 C) $\frac{1}{125}$ D) 5

91) $(3^{-3})^{-1}$ 91) _____
A) 27 B) 9 C) $\frac{1}{27}$ D) $\frac{1}{9}$

Simplify the expression. Express the answer so that all exponents are positive. Whenever an exponent is 0 or negative, we assume that the base is not 0.

92) $(x^9y^{-1})^8$ 92) _____
A) $\frac{x^{72}}{y^8}$ B) $x^{72}y^8$ C) $\frac{y^8}{x^{72}}$ D) $\frac{1}{x^{72}y^8}$

93) $\left(\frac{3x-1}{7y-1}\right)^{-2}$ 93) _____
A) $\frac{49x^2}{9y^2}$ B) $\frac{9y^2}{49x^2}$ C) $\frac{49y^2}{9x^2}$ D) $\frac{9x^2}{49y^2}$

Evaluate the expression using the given value of the variables.

94) $-3x^{-1}y^2$ for $x = 1, y = -2$ 94) _____
A) $-\frac{3}{4}$ B) -12 C) $-\frac{4}{3}$ D) -12

95) $5x^2 - 4y^2$ for $x = 2, y = -3$ 95) _____
A) 56 B) -26 C) -16 D) 32

Insert <, >, or = to make the statement true.

96) 2.23 _____ $\sqrt{5}$ 96) _____
A) > B) = C) <

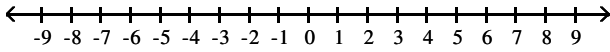
Write the statement as an inequality.

97) y is greater than or equal to 50 97) _____
A) $y \leq 50$ B) $y \geq 50$ C) $y < 50$ D) $y > 50$

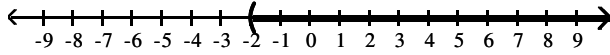
Graph the numbers on the real number line.

98) $x > -2$

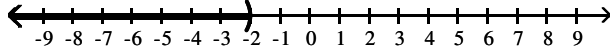
98) _____



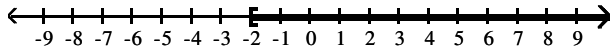
A)



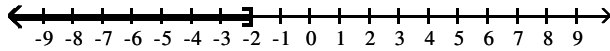
B)



C)



D)



Evaluate the expression using the given values.

99) $\frac{9x - 8y}{x + 11}$ $x = 8, y = 5$

99) _____

A) $\frac{19}{16}$

B) 2

C) 1

D) $\frac{32}{19}$

100) $|x - y|$ $x = -6, y = 8$

100) _____

A) -14

B) -2

C) 2

D) 14

Express the statement as an equation involving the indicated variables.

101) The perimeter P of a rectangle is twice the sum of its length l and its width w .

101) _____

A) $P = 2(l + w)$

B) $P = 2lw$

C) $P = l + w$

D) $P = lw$

102) The surface area S of a sphere is 4 times π times the square of the radius r .

102) _____

A) $S = 4\pi r$

B) $S = 4\pi r^2$

C) $S = \pi r^2$

D) $S = 4\pi\sqrt{r}$

Determine which value(s), if any, must be excluded from the domain of the variable in the expression.

103) $\frac{2x - 5}{x^2 - 81}$

103) _____

A) $x = \frac{5}{2}$

B) $x = 81$

C) $x = 9, x = -9$

D) $x = 9$

104) $\frac{x^2 + 5x - 2}{x^3 - 25x}$

104) _____

A) $x = 0$

B) $x = 5, x = -5$

C) $x = 5, x = -5, x = 0$

D) $x = 5, x = 0$

Insert $<$, $>$, or $=$ to make the statement true.

105) 3.16 _____ $\sqrt{10}$

A) $=$

B) $<$

C) $>$

105) _____

Write the statement as an inequality.

106) y is greater than or equal to 60

A) $y \leq 60$

B) $y \geq 60$

C) $y > 60$

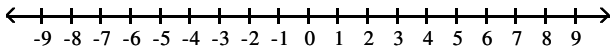
D) $y < 60$

106) _____

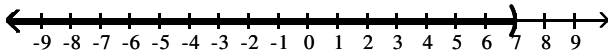
Graph the numbers on the real number line.

107) $x > 7$

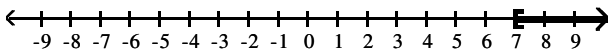
107) _____



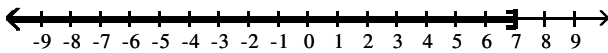
A)



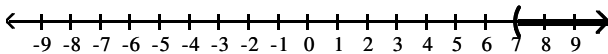
B)



C)



D)



Answer Key

Testname: ONLINE REVIEW TOPICS

- 1) B
- 2) D
- 3) D
- 4) C
- 5) D
- 6) C
- 7) C
- 8) B
- 9) B
- 10) B
- 11) B
- 12) D
- 13) A
- 14) C
- 15) A
- 16) B
- 17) D
- 18) C
- 19) B
- 20) A
- 21) A
- 22) B
- 23) C
- 24) A
- 25) B
- 26) A
- 27) A
- 28) B
- 29) A
- 30) A
- 31) B
- 32) D
- 33) B
- 34) D
- 35) D
- 36) D
- 37) A
- 38) D
- 39) C
- 40) C
- 41) A
- 42) C
- 43) C
- 44) D
- 45) A
- 46) B
- 47) D
- 48) B
- 49) C
- 50) D

Answer Key

Testname: ONLINE REVIEW TOPICS

- 51) D
- 52) B
- 53) A
- 54) D
- 55) C
- 56) B
- 57) B
- 58) B
- 59) D
- 60) D
- 61) A
- 62) B
- 63) B
- 64) C
- 65) C
- 66) A
- 67) C
- 68) D
- 69) D
- 70) C
- 71) C
- 72) A
- 73) A
- 74) D
- 75) A
- 76) D
- 77) C
- 78) C
- 79) B
- 80) C
- 81) B
- 82) C
- 83) D
- 84) C
- 85) D
- 86) A
- 87) C
- 88) D
- 89) A
- 90) A
- 91) A
- 92) A
- 93) A
- 94) B
- 95) C
- 96) C
- 97) B
- 98) A
- 99) D
- 100) D

Answer Key

Testname: ONLINE REVIEW TOPICS

101) A

102) B

103) C

104) C

105) B

106) B

107) D