

Name _____

review for math TSI 55 practice 05101704041700aafm041024350m**www.alvarezmathhelp.com****MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.****Solve the equation.**

1) $2(5x - 2) = 8x$ 1) _____
 A) 2 B) -2 C) -1 D) 1

Answer: A

Objective: (3.2) Use Both Properties to Solve Equations

TSI182-9

2) $5(y - 4) = 7y - 20$ 2) _____
 A) 0 B) -20 C) 20 D) -40

Answer: A

Objective: (3.2) Use Both Properties to Solve Equations

TSI182-10

3) $5x - 6 = 2x - 30$ 3) _____
 A) -8 B) 8 C) -10 D) 10

Answer: A

Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

TSI182-12

Solve.

4) $\frac{x}{5} = \frac{x}{6} + \frac{2}{5}$ 4) _____
 A) 12 B) $-\frac{2}{5}$ C) 0 D) $\frac{1}{12}$

Answer: A

Objective: (4.8) Solve Equations Containing Fractions

TSI182-14

Find the mean. If necessary, round to one decimal place.

5) 17, 1, 16, 16, 7, 19, 3, 17 5) _____
 A) 12 B) 11 C) 34 D) 13.7

Answer: A

Objective: (5.7) Find the Mean of a List of Numbers

TSI182-16

Find the median. If necessary, round to one decimal place.

6) 4, 6, 25, 23, 43, 47 6) _____
 A) 24 B) 23 C) 21.5 D) 25

Answer: A

Objective: (5.7) Find the Median of a List of Numbers

TSI182-17

Solve the proportion.

7) $\frac{x+8}{x} = \frac{4}{3}$

7) _____

A) 24

B) - 32

C) $\frac{24}{7}$

D) 8

Answer: A

Objective: (6.1) Solve Proportions

TSI182-19

Translate to an equation and solve.

8) 19 is 4% of what number?

8) _____

A) 475

B) 4750

C) 47.5

D) 76

Answer: A

Objective: (6.3) Solve Percent Problems

TSI182-20

Find the probability of the event if a single choice is made from a bag.

9) A bag contains 2 red marbles, 7 blue marbles, and 3 green marbles. What is the probability of choosing a blue marble when one marble is drawn?

9) _____

A) $\frac{7}{12}$

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

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

D) $\frac{7}{9}$

Answer: A

Objective: (7.5) Find the Probability of an Event

TSI182-24

10) A bag contains 7 red marbles, 2 blue marbles, and 1 green marble. What is the probability of choosing a marble that is not blue when one marble is drawn from the bag?

10) _____

A) $\frac{4}{5}$

B) $\frac{5}{4}$

C) $\frac{1}{5}$

D) 8

Answer: A

Objective: (7.5) Find the Probability of an Event

TSI182-26

Solve.

11) A new drug is being tested that is supposed to lower cholesterol. This drug was given to 200 people and the results are below.

11) _____

Lower Cholesterol	Higher Cholesterol	Cholesterol not Changed
134	8	58

If a person is testing this drug, what is the probability that their cholesterol will be lower?

A) $\frac{67}{100}$

B) $\frac{71}{100}$

C) $\frac{33}{100}$

D) $\frac{24}{25}$

Answer: A

Objective: (7.5) Find the Probability of an Event

TSI182-29

12) The length of a rectangle is 148 in. and the width is 36 in. Find its perimeter.

12) _____

A) 368 in.

B) 184 in.

C) 332 in.

D) 5328 in.

Answer: A

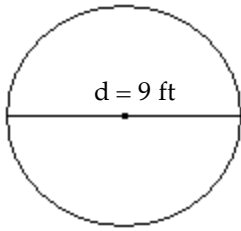
Objective: (8.2) Use Formulas to Find Perimeters

TSI182-30

Find the area of the geometric figure.

13)

13) _____



Use 3.14 for π .

A) 63.585 sq ft

B) 254.34 sq ft

C) 127.17 sq ft

D) 56.52 sq ft

Answer: A

Objective: (8.3) Find the Area of Plane Regions

TSI182-33

Solve.

14) Use the formula $C = \frac{5}{9}(F - 32)$ to write 212° F as degrees Celsius.

14) _____

A) 100° C

B) 413.6° C

C) 135.6° C

D) 85.8° C

Answer: A

Objective: (9.5) Use Formulas to Solve Problems

TSI182-42

Substitute the given values into the formula and solve for the unknown variable.

15) $P = 2L + 2W$; $P = 28$, $W = 6$

15) _____

A) 8

B) 14

C) 11

D) 22

Answer: A

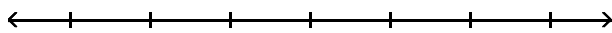
Objective: (9.5) Solve a Formula or Equation for One of Its Variables

TSI182-44

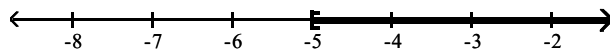
Solve the inequality. Graph the solution set and write it in interval notation.

16) $-16x - 32 \leq -4(3x + 3)$

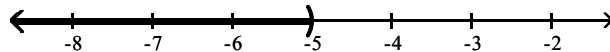
16) _____



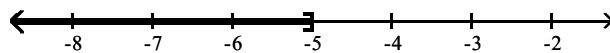
A) $[-5, \infty)$



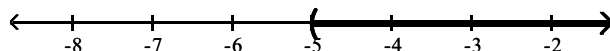
B) $(-\infty, -5)$



C) $(-\infty, -5]$



D) $[-5, \infty)$



Answer: A

Objective: (9.6) Use Both Properties to Solve Inequalities

TSI182-54

Determine whether the ordered pair is a solution of the given linear equation.

17) $-2y + 3x = -15$; $(5, 0)$

A) no

B) yes

17) _____

Answer: A

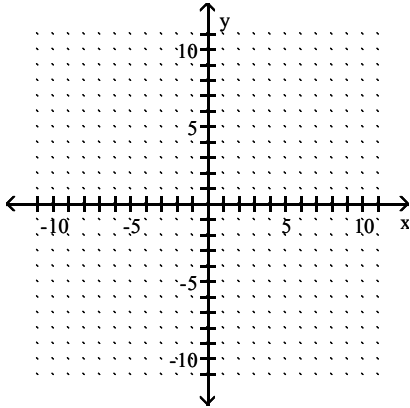
Objective: (10.1) Determine whether an ordered pair is a solution of an equation in two variables.

TSI182-55

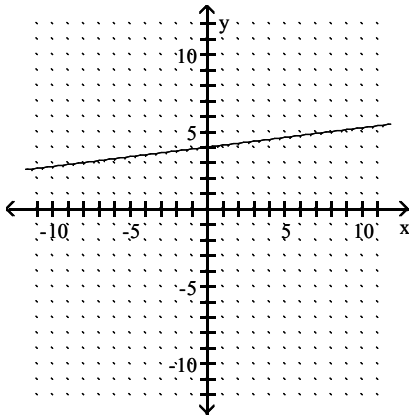
Graph the linear equation.

18) $y = \frac{1}{8}x + 4$

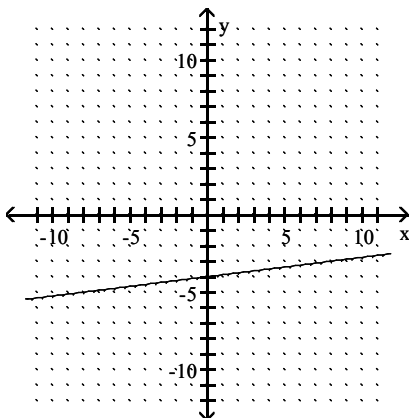
18) _____



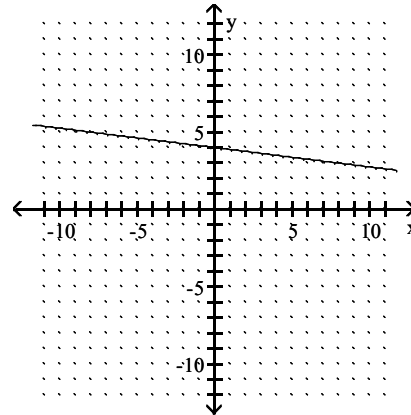
A)



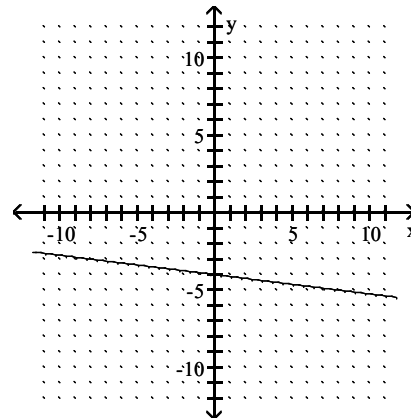
C)



B)



D)



Answer: A

Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

TSI182-59

Evaluate the function.

19) Find $f(-3)$ when $f(x) = 3x^2 + 3x - 6$.

A) 12

B) 30

C) 24

D) 27

19) _____

Answer: A

Objective: (10.6) Use function notation.

TSI182-66

Solve the system of equations by the addition method.

$$20) \begin{cases} -2x + 3y = 2 \\ -3x + 5y = 2 \end{cases}$$

A) $(-4, -2)$

B) $(-2, -4)$

C) infinite number of solutions

D) no solution

20) _____

Answer: A

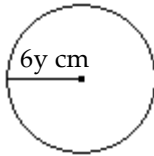
Objective: (11.3) Use the addition method to solve a system of linear equations.

TSI182-70

Solve.

21) The circle has a radius of $6y$ centimeters. Find its area. Do not approximate π . ($A = \pi r^2$)

21) _____



A) $36y^2\pi$ sq cm

B) $12y^2\pi$ sq cm

C) $36y\pi$ sq cm

D) $12y\pi$ sq cm

Answer: A

Objective: (12.1) Use the power rule for exponents.

TSI182-73

Use the power rule and the power of a product or quotient rule to simplify the expression.

22) $(2a^4b)^2$

A) $4a^8b^2$

B) $2a^6b^2$

C) $2a^8b^2$

D) $4a^6b^2$

22) _____

Answer: A

Objective: (12.1) Use the power rules for products and quotients.

TSI182-74

23) $\left(\frac{xy}{4}\right)^2$

A) $\frac{x^2y^2}{16}$

B) $\frac{xy^2}{16}$

C) $\frac{x^2y^2}{4}$

D) $\frac{xy}{16}$

23) _____

Answer: A

Objective: (12.1) Use the power rules for products and quotients.

TSI182-76

Use the quotient rule to simplify the expression.

24) $\frac{45m^3n^7}{9m^2n^5}$

A) $5mn^2$

B) $45mn^2$

C) $5m^5n^{12}$

D) $5n^2$

24) _____

Answer: A

Objective: (12.1) Use the quotient rule for exponents.

TSI182-81

Simplify the expression.

25) $(-4z^2)(5z^3)$

A) $-20z^5$

B) $-20z^6$

C) $2000z^5$

D) $20z^6$

25) _____

Answer: A

Objective: (12.1) Decide which rule(s) to use to simplify an expression.

TSI182-82

Simplify.

26) If $P(x) = 3x^2 - 6x$, find $P(-5)$.

A) 105

B) 75

C) 15

D) 64

26) _____

Answer: A

Objective: (12.2) Define polynomial functions.

TSI182-86

Multiply.

27) $-5x(-8x^2 + 2x - 3)$

A) $40x^3 - 10x^2 + 15x$

B) $40x^3 + 2x - 3$

C) $40x^2 - 10x + 15$

D) $40x^3 - 10x^2 + 15$

27) _____

Answer: A

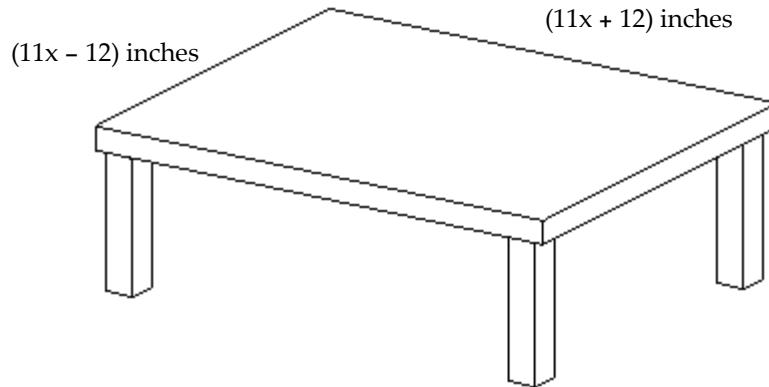
Objective: (12.3) Use the distributive property to multiply polynomials.

TSI182-91

Solve.

28) Find the area of the top of the table. Express the area as a product, then multiply and simplify.

28) _____



A) $(121x^2 - 144)$ sq in.

B) $(x^2 - 144)$ sq in.

C) $(121x^2 - 264x - 144)$ sq in.

D) $(121x^2 + 264x - 144)$ sq in.

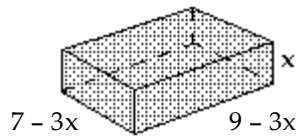
Answer: A

Objective: (12.3) Use the distributive property to multiply polynomials.

TSI182-99

29) Find the volume of the rectangular solid. Express the volume as a product, then multiply and simplify.

29) _____



A) $9x^3 - 48x^2 + 63x$

B) $9x^2 - 48x + 64$

C) $-9x^3 + 36x^2 + 63x$

D) $-9x^2 + 36x + 64$

Answer: A

Objective: (12.3) Use the distributive property to multiply polynomials.

TSI182-100

Multiply.

30) $(3a - 7)^2$

30) _____

A) $9a^2 - 42a + 49$

B) $9a^2 + 49$

C) $3a^2 - 42a + 49$

D) $3a^2 + 49$

Answer: A

Objective: (12.4) Square a binomial.

TSI182-102

Simplify the expression. Write the result using positive exponents only.

31) 5^{-4}

31) _____

A) $\frac{1}{625}$

B) -625

C) 625

D) $\frac{1}{20}$

Answer: A

Objective: (12.5) Simplify expressions containing negative exponents.

TSI182-104

Perform the division.

32) $\frac{6r^8 - 10r^3}{2r}$

32) _____

A) $3r^7 - 5r^2$

B) $6r^7 - 10r^2$

C) $3r^9 - 5r^4$

D) $3r^8 - 5r^3$

Answer: A

Objective: (12.6) Divide a polynomial by a monomial.

TSI182-106

Factor out the GCF from the polynomial.

33) $30x + 10$

33) _____

A) $10(3x + 1)$

B) $5(6x + 2)$

C) $2(15x + 5)$

D) $10(3x)$

Answer: A

Objective: (13.1) Factor out the greatest common factor from a polynomial.

TSI182-109

34) $20x^4y + 36xy^3$

34) _____

A) $4x(5x^3y + 9y^3)$

B) $4y(5x^4 + 9xy^2)$

C) $4xy(5x^3 + 9y^2)$

D) $xy(20x^3 + 36y^2)$

Answer: C

Objective: (13.1) Factor out the greatest common factor from a polynomial.

TSI182-110

Factor the trinomial completely. If the polynomial cannot be factored, write "prime."

35) $x^2 - x - 56$ 35) _____
A) $(x + 7)(x - 8)$ B) $(x + 8)(x - 7)$ C) $(x + 1)(x - 56)$ D) prime

Answer: A

Objective: (13.2) Factor trinomials of the form $x^2 + bx + c$.

TSI182-112

36) $x^2 + 3xy - 18y^2$ 36) _____
A) $(x - 6y)(x + 3y)$ B) $(x + 6y)(x - 3y)$ C) $(x - 6y)(x + y)$ D) $(x - y)(x + 3y)$

Answer: B

Objective: (13.2) Factor trinomials of the form $x^2 + bx + c$.

TSI182-122

Factor the binomial completely.

37) $81x^2 - 49$ 37) _____
A) $(9x + 7)(9x - 7)$ B) $(9x - 7)^2$ C) $(9x + 7)^2$ D) prime

Answer: A

Objective: (13.5) Factor the difference of two squares.

TSI182-127

38) $x^2 - \frac{25}{64}$ 38) _____
A) $\left(x + \frac{5}{8}\right)\left(x - \frac{5}{8}\right)$ B) $\left(x - \frac{5}{8}\right)^2$ C) $\left(x + \frac{5}{8}\right)\left(\frac{5}{8} - x\right)$ D) $\left(x + \frac{5}{8}\right)^2$

Answer: A

Objective: (13.5) Factor the difference of two squares.

TSI182-132

Solve the equation.

39) $x(x + 17) = 0$ 39) _____
A) -17, 0 B) 17, 0 C) 1, -17 D) -1, -17

Answer: A

Objective: (13.6) Solve quadratic equations by factoring.

TSI182-134

40) $x^2 + 2x - 80 = 0$ 40) _____
A) -10, 8 B) 10, 8 C) -10, 1 D) 10, -8

Answer: A

Objective: (13.6) Solve quadratic equations by factoring.

TSI182-135

41) $x^2 + 3x = 28$ 41) _____
A) -7, 4 B) 7, 4 C) -7, 1 D) 7, -4

Answer: A

Objective: (13.6) Solve quadratic equations by factoring.

TSI182-138

42) $10x^3 + 70x^2 + 120x = 0$ 42) _____
A) 0, -3, -4 B) -3, -4 C) 0, 3, 4 D) $-\frac{1}{3}, -4$

Answer: A

Objective: (13.6) Solve equations with degree greater than 2 by factoring.

TSI182-141

Solve.

- 43) The area of a square is 49 square miles. Find the length of a side of the square. 43) _____
A) 7 mi B) 12.25 mi C) 24.5 mi D) -7 mi

Answer: A

Objective: (13.7) Solve problems that can be modeled by quadratic equations.

TSI182-144

Solve the problem.

- 44) If $f(x) = \frac{x-8}{6x+7}$, find $f(-2)$. 44) _____
A) 2 B) 1 C) 0 D) -2

Answer: A

Objective: (14.1) Use rational functions in applications.

TSI182-150

Find the product and simplify.

- 45) $\frac{2x^2}{4} \cdot \frac{24}{x^3}$ 45) _____
A) $\frac{12}{x}$ B) $\frac{x}{12}$ C) $\frac{12x^2}{x^3}$ D) $\frac{48x^2}{4x^3}$

Answer: A

Objective: (14.2) Multiply rational expressions.

TSI182-153

Solve the equation.

- 46) $\frac{x+3}{4} = \frac{x+4}{5}$ 46) _____
A) 1 B) $\frac{7}{9}$ C) $\frac{7}{20}$ D) $\frac{1}{20}$

Answer: A

Objective: (14.5) Solve equations containing rational expressions.

TSI182-155

- 47) $\frac{5-a}{a} + \frac{3}{4} = \frac{7}{a}$ 47) _____
A) -8 B) 4 C) 8 D) -4

Answer: A

Objective: (14.5) Solve equations containing rational expressions.

TSI182-156

Solve the absolute value equation.

- 48) $|x+3| = 6$ 48) _____
A) -9, 3 B) 9, 3 C) -3 D) \emptyset

Answer: A

Objective: (16.2) Solve absolute value equations.

TSI182-162

Evaluate.

- 49) If $f(x) = \sqrt{2x+6}$, find the value of $f(15)$. 49) _____
A) 6 B) 36 C) 30 D) $\sqrt{30}$

Answer: A

Objective: (17.1) Find function values of square and cube roots.

TSI182-165

Solve.

50) $\sqrt{x+4} = 8$

A) 60

B) 64

C) 68

D) 144

50) _____

Answer: A

Objective: (17.6) Solve equations that contain radical expressions.

TSI182-166

Use the square root property to solve the equation.

51) $(x-5)^2 = 36$

A) 11, -1

B) 41

C) 6, -6

D) -1, -11

51) _____

Answer: A

Objective: (18.1) Use the square root property to solve quadratic equations.

TSI182-171

Use the quadratic formula to solve the equation.

52) $x^2 - 2x - 48 = 0$

A) -6, 8

B) 6, -8

C) 6, 8

D) -48, 0

52) _____

Answer: A

Objective: (18.2) Solve quadratic equations by using the quadratic formula.

TSI182-173

53) $2x^2 - 7x - 9 = 0$

A) $\frac{9}{2}$, -1

B) $\frac{2}{9}$, -1

C) $\frac{2}{9}$, 1

D) $\frac{2}{9}$, 0

53) _____

Answer: A

Objective: (18.2) Solve quadratic equations by using the quadratic formula.

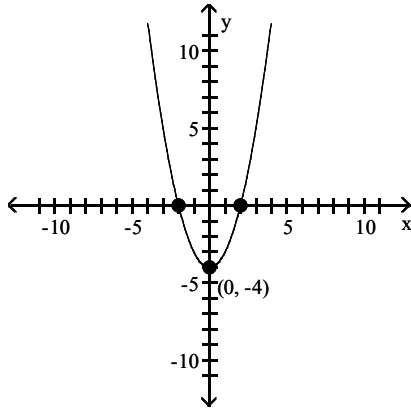
TSI182-177

Match the function with its graph.

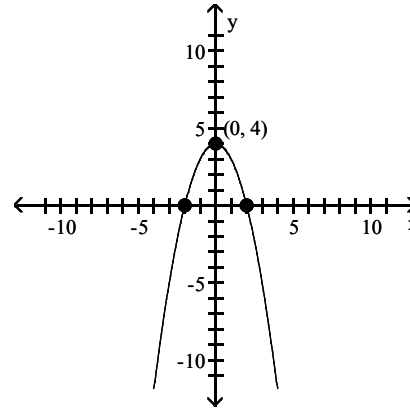
54) $f(x) = x^2 - 4$

54) _____

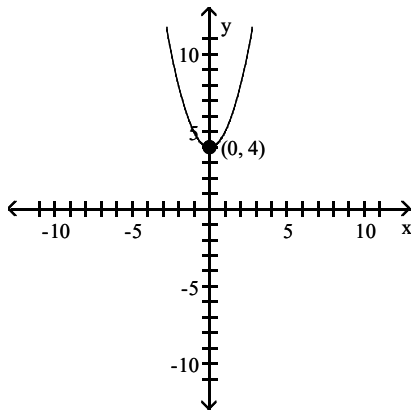
A)



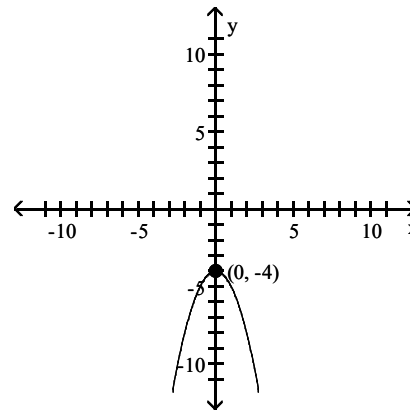
B)



C)



D)



Answer: A

Objective: (18.6) Graph a quadratic function and find the vertex, intercepts, and direction of opening.
TSI182-180

Solve.

55) Four bacteria are placed in a petri dish. The population will triple every day. The formula for the number of bacteria in the dish on day t is $N(t) = 4(3)^t$, where t is the number of days after the four bacteria are placed in the dish. How many bacteria are in the dish five days after the four bacteria are placed in the dish?

55) _____

A) 972 bacteria

B) 60 bacteria

C) 500 bacteria

D) 12 bacteria

Answer: A

Objective: (19.3) Solve problems modeled by exponential equations.
TSI182-182

Answer Key

Testname: AAFM041024350MTSI55

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

Answer Key

Testname: AAFM041024350MTSI55

51) A

52) A

53) A

54) A

55) A