

Student: _____**Instructor:** Megan Rourke**Assignment:** 7.3-7.5 Homework**Date:** _____**Course:** MATH 1500 - Online

1. Solve the equation.

$$z + 7 = 10$$

z = (Simplify your answer.)

2. Solve the equation.

$$6 = a - 2\frac{3}{5}$$

a = (Type an integer, proper fraction, or mixed number.)

3. Solve the following equation.

$$-98 = 14x$$

x = (Simplify your answer.)

4. Solve the equation.

$$11a = 0.077$$

a = (Type an integer or a decimal.)

5. Solve the equation.

$$w + 9 = 4$$

w = (Simplify your answer.)

6. Solve the following equation.

$$24 - x = 44$$

x = (Simplify your answer.)

- 7.

Solve.

$$1 + n = 2$$

The solution is $n =$.
(Simplify your answer.)

8. For a particular transformer, the voltage E in the circuits is related to the number of windings W of wire around the core by the equation $E = 40W$. How many windings will produce a voltage of 520 V?

A voltage of 520 V will be produced by windings.

9. The amount of lumber in board feet (bf) can be expressed by the formula $bf = \frac{TWL}{12}$ where T is the thickness of a board in inches, W is its width in inches, and L is its length in feet. What total length of 1 in. by 4 in. boards is needed for a total of 17 bf?

The total length is feet.

10. Solve and check.

$$\frac{x}{2} = 8$$

The solution is $x =$.
(Simplify your answer.)

11. Solve.

$$4.4m - 2.1 = 8.9$$

The solution is $m =$.
(Type an integer or a decimal.)

12. Solve.

$$17 - 4n = -15$$

The solution is $n =$.
(Simplify your answer.)

13. Solve.

$$24 - \frac{x}{6} = 9$$

The solution is $x =$.

14. Solve.

$$-11 = 3 - 5x + 12x$$

The solution is $x =$.
(Simplify your answer.)

15. Solve.

$$\frac{1}{2} + 12x = 1$$

The solution is $x =$.
(Type an integer or a simplified fraction.)

16. Solve.

$$-3a + 30 = 21$$

The solution is $a =$.
(Simplify your answer.)

17.

Solve.

$$\frac{x-7}{8} = -4$$

The solution is $x =$.

18. A repair service charges \$25 for a house call and an additional \$70 per hour of work. The formula

$$T = 25 + 70H$$

represents the total charge T for H hours of work. If the total bill for a customer was \$340, how many hours of actual labor were there?

There were hours of actual labor.
(Type an integer or a decimal.)

19. A plumber's total bill A can be calculated using the formula

$$A = RT + M$$

where R is his hourly rate, T is the total labor time in hours, and M is the cost of materials. A plumber bids a particular job at \$2830. If materials amount to \$1135, and his hourly rate is \$60 per hour, how many hours should the job take for the estimate to be accurate?

The job should take hours.
(Type an integer or a decimal.)

20. The pressure P (in pounds per square inch or psi) on a submerged body in wastewater is given by $P = 0.520D + 14.7$, where D is the depth in feet. At what depth is the pressure 25.0 psi?

The pressure is 25.0 psi at the depth of approximately ft.
(Round to nearest tenth as needed.)

21. Solve the equation.

$$4 + 5(y - 7) = 25$$

The solution is $y =$.
(Simplify your answer. Type an integer, proper fraction, or mixed number.)

22. Solve the equation.

$$10 = 6 - 4(4x - 5)$$

The solution is $x =$.
(Simplify your answer. Type an integer, proper fraction, or mixed number.)

23. Solve the following equation.

$$11x - 4(3x - 7) = 33$$

The solution is $x =$.
(Simplify your answer.)

24. Solve the following equation.

$$6y - 4 = 23 - 3y$$

The solution is $y =$.
(Simplify your answer.)

25. Solve the equation.

$$3 - (4x - 20) = 5(x - 3)$$

The solution is $x =$.
(Simplify your answer. Type an integer, proper fraction, or mixed number.)

26.

Solve.

 $C = JS$, for S

$S =$

27.

Solve.

 $B = JS$, for S

$S =$

28.

Solve the formula $S = \frac{LP}{L+6}$ for the variable P .

$P =$

29. Nurses use a formula known as young's rule to determine the amount of medicine to give a child under 12 years of age when the adult dosage is known.

$$C = \frac{AD}{A+12}$$

 C is the child dose, A is the age of the child in years, and D is the adult dose.**(a)** Work backward and find the adult dose in terms of the child's dose. Solve for D .**(b)** Find D if $C = 0.02$ gram and $A = 5$.

(a) $D =$

(b) $D \approx$

(Type an integer or decimal rounded to two decimal places.)

1. 3

2. $8\frac{3}{5}$

3. -7

4. 0.007

5. -5

6. -20

7. 1

8. 13

9. 51

10. 16

11. 2.5

12. 8

13. 90

14. -2

15. $\frac{1}{24}$

16. 3

17. -25

18. 4.5

19. 28.25

20. 19.8

21. $11\frac{1}{5}$

22. 1

23. -5

24. 3

25. $4\frac{2}{9}$

26. $\frac{C}{J}$

27. $\frac{B}{J}$

28. $\frac{S(L+6)}{L}$

29. $\frac{CA+12C}{A}$

0.07