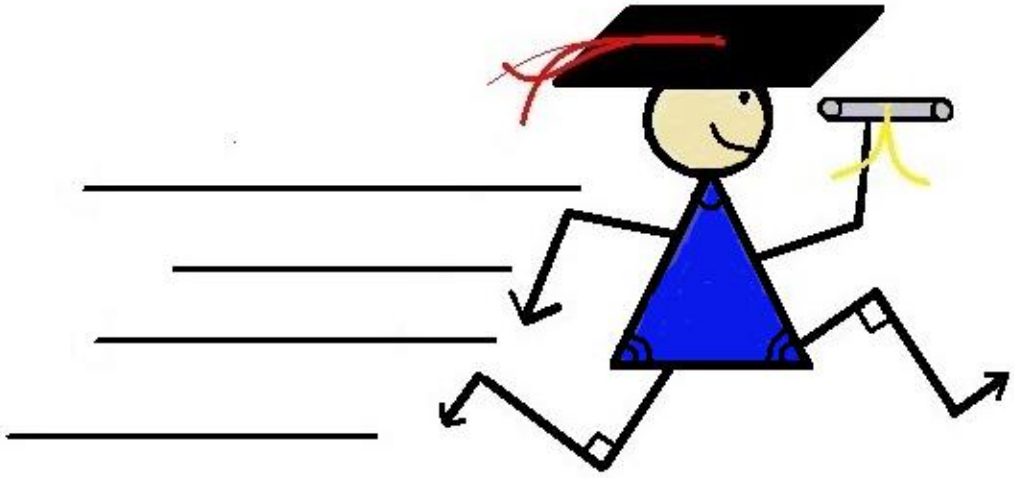
CHAPTER 1

Intro to Pre algebra



Learn Math Fast

Name: _____ Date: _____

WORKSHEET 3-1

Solve for x.

1.	$4 + x = 24$	2.	$x + 14 = 21$	3.	$2 + x = 12$
4.	$x + 72 = 172$	5.	$x - 33 = 54$	6.	$9 + x = 62$
7.	$4 + x = 0$	8.	$x + 25 = 100$	9.	$x - 8 = 176$
10.	$10 + x = 310$	11.	$x + 38 = 44$	12.	$x - 8 = 34$
13.	$x - 8 = 5$	14.	$x - 14 = -2$	15.	$9 + x = -1$
16.	$11 + x = -7$	17.	$4 + x = 2$	18.	$x - 3 = 27$
19.	$x + 36 = 36$	20.	$4 + x = -26$	21.	$-33 = 7 + x$

22. Eric had 57 baseball cards. He gave his brother a small handful of them. Now he only has 43 cards left. How many cards did Eric give to his brother?

$$43 + x = 57$$

23. Mike has 9 gallons of paint. He needs a total of 17 gallons to paint the house. How many more gallons does he need?

$$9 + x = 17$$

Name: _____ Date: _____

WORKSHEET 3-1a

Solve for x.

1. $-3 + x = -12$
2. $x - 14 = -28$
3. $12 + x = 4$
4. $10 + x = 5$
5. $x + 8 = -48$
6. $62 = x + 9$
7. $-44 = x - 18$
8. $x + 25 = -100$
9. $x - 10 = -17$
10. $x + 5 = -55$
11. $x + 7 = -12$
12. $8 + x = -20$
13. $x - 27 = -15$
14. $-\frac{1}{2} + x = -.5$
15. $-.75 + x = .25$
16. $x + .3 = -5.3$
17. $\frac{1}{2} + x = 5$
18. $x - \frac{1}{4} = -6\frac{3}{4}$

19. Sarah is trying to break the record for doing the most one-handed cartwheels on a balance beam without falling. Right now, the record is 71, so she needs to get to 72 to break the record. She has done 15 cartwheels, so far. How many more does she need to do to break the record? Use algebra to solve for x in the equation below.

$$15 + x = 72$$

20. Robin needs to keep track of the water level at Lake Welch. At the end of the summer, the water level was low. It measured 30 inches below the desired level. After a week of rain, the water level rose and is now only 16 inches below the desired level. How many inches did it rain? Use algebra to solve for x.

$$-30 + x = -16$$

Name:_____ Date:_____

WORKSHEET 3-2

Solve for x.

1.	$4x = 16$	2.	$5x = 15$	3.	$3x = 21$	4.	$9x = 54$
5.	$8x = 56$	6.	$2x = 12$	7.	$8x = 72$	8.	$3x = 12$
9.	$9x = 63$	10.	$4x = 28$	11.	$5x = 105$	12.	$11x = 176$
13.	$10x = 210$	14.	$12x = 144$	15.	$8x = 24$	16.	$6x = 24$
17.	$1/2x = 4$	18.	$3x = 42$	19.	$9x = 81$	20.	$11x = 154$
21.	$4x = 32$	22.	$7x = 42$	23.	$6x = 48$	24.	$6x = 36$
25.	$2x = 100$	26.	$4x = 36$	27.	$9x = 18$	28.	$49 = 7x$
29.	$9 = 3x$	30.	$27 = 3x$	31.	$30 = 6x$	32.	$48 = 12x$

Name: _____ Date: _____

WORKSHEET 3-2a

Solve for x.

1. $6x = 3$
2. $\frac{1}{2}x = 8$
3. $5x = 3.75$
4. $-5x = 25$
5. $-\frac{1}{8}x = 1$
6. $-2x = -34$
7. $-5 + x = 2\frac{1}{2}$
8. $10x = -6\frac{1}{4}$
9. $8x = 64$
10. $-7x = -49$
11. $16x = -4$
12. $72 = -9x$
13. $-3\frac{1}{8} + x = 2$
14. $8\frac{3}{8}x = -8\frac{3}{8}$
15. $12 + x = 4$
16. $x - \frac{5}{6} = \frac{2}{12}$

Try to solve these ones in your mind. (This is a tough one.)

17. $\frac{1}{2}x = -10$
18. $8 = \frac{1}{2}x$
19. $14x = 7$
20. $-2x = 4$

21. A 5-inch hamburger patty shrinks down to $\frac{3}{4}$ that size when cooked. Here is the math, $\frac{3}{4} \cdot 5 = x$ $\frac{15}{4} = x$. But Collin wants the cooked burgers to be exactly 3". What size hamburger patties should he make?

$$\frac{3}{4}x = 3\ inches$$

Name: _____ Date: _____

WORKSHEET 3-3a

1. $\frac{x}{5} = 8$

2. $\frac{x}{9} = 7$

3. $\frac{x}{10} = \frac{1}{2}$

4. $\frac{x}{8} = 2\frac{3}{4}$

5. $\frac{x}{-8} = \frac{5}{8}$

6. $\frac{7}{16} = \frac{x}{24}$

7. $-9 = \frac{x}{3}$

8. $\frac{x}{4} = -3\frac{1}{2}$

9. $18 = \frac{x}{\frac{1}{2}}$

10. $\frac{x}{3} = -4\frac{7}{8}$

11. Connor is playing in a championship football game. His team has a score of 56 points. Each touchdown is worth 7 points, so how many touchdowns did they make? Use the algebraic equation below to solve the problem.

$$7 = \frac{56}{x}$$

12. Keith is writing an essay for a contest. Each mistake is worth $-\frac{1}{2}$ point. If his total is $-5\frac{1}{2}$ points or more, he will win. How many mistakes can he make and still win? Use the algebraic equation below to solve the problem.

$$-\frac{1}{2} = \frac{-5\frac{1}{2}}{x}$$

Name: _____ Date: _____

WORKSHEET 3-4

Solve the following.

1. $93 - x = 47$
2. $x + 75 = -5$
3. $-x + 10 = 5$
4. $-5 + x = 11$
5. $x - (-23) = -43$
6. $-17 + x = -34$
7. $-3x = 9$
8. $12x = -48$
9. $99 = 11x$
10. $5x = 105$
11. $16x = 176$
12. $9x + 5 = 50$
13. $11x - 6 = 115$
14. $8 + 15a = 38$
15. $-33 - 14x = -145$
16. $45x - -2 = 92$
17. $\frac{1}{5}x + 7 = 11$
18. $x - \frac{5}{8} = 2\frac{3}{8}$

Name: _____ Date: _____

WORKSHEET 3-5

Solve the following.

1. $\frac{54}{x} = 9$

2. $\frac{x}{8} = 7$

3. $\frac{48}{x} = 8$

4. $\frac{x}{5} = 4$

5. $\frac{144}{x} = 12$

6. $\frac{56}{x} = 28$

7. $\frac{28}{x} + 3 = 10$

8. $8 + \frac{56}{x} = 15$

9. $\frac{x}{6} - 2 = 4$

10. $\frac{1}{3}x = 2$

11. $\frac{200}{x} = 1$

12. $\frac{1}{4}x = 4$

13. $\frac{x}{2} - 2 = 3$

14. $\frac{96}{x} + 9 = 17$

15. $\frac{14}{x} = 14$

Name: _____ Date: _____

WORKSHEET 3-6

Solve for **x** in terms of y.

1. $x + y = 24$
2. $y + x = 18$
3. $x + 8 = y$
4. $x - 4 = y$
5. $xy = 30$
6. $\frac{x}{y} = 15$
7. $17 + x = y$
8. $\frac{y}{x} = 16$
9. $\frac{x}{y} = 77$

Solve for **y** in terms of x.

10. $\frac{48}{y} = x$
11. $\frac{x}{y} = 4$
12. $\frac{144}{y} = x$
13. $5y = x$
14. $9x + y = 50$
15. $11x + y = 115$
16. $x = 100y$
17. $x = 41y$
18. $x = y - 10$

Name:_____ Date:_____

WORKSHEET 3-7a

Write each ratio as a fraction.

1. The ratio of 3 to 7.

2. The ratio of 5 to 10.

3. The ratio of 8 to 3.

4. The ratio of $\frac{1}{2}$ to 3. (Don't be afraid to have a fraction as a numerator)

5. A fisherman needs 12 pounds of weight for every 60 feet of fishing line. What is the ratio of weight to feet? Reduce your answer.

6. At the school dance, there were 40 boys and 20 girls. What is the ratio of boys to girls? Reduce your answer.

7. The votes were counted. There were 6 "yes" votes and 18 "no" votes. What is the ratio of yes to no votes? Reduce your answer.

8. The campers received one tent per four campers. What is the ratio of campers to tents? Write your answer in this format: 9:3.

9. A race car travels three miles in one minute. Another car drove one mile in one minute. Write a ratio that compares the distance of the race car to the other car.

10. A recipe for potato salad suggests using 3 potatoes for each serving. What is the ratio of potatoes per person?

Name:_____ Date:_____

WORKSHEET 3-7b

1. Write a ratio that shows 14 dog bones for 7 dogs. Then show how many dog bones per dog.

2. Write a ratio to help you calculate the cost per can of pop. A 6-pack of pop costs $2.94. How much per can? Hint: your answer will be in cents, so your ratio should be in cents not dollars.

3. Write a ratio, using the ratio symbol ":" to show 2 teachers to 44 students.

4. Write two ratios to help you figure out which is the better value. You can spend $249 for 100 t-shirts or you spend $49 to buy 10 t-shirts. Find the price per t-shirt. Which is the better deal?

5. We traveled 444 miles in 3 days. How many miles did we travel per day?

6. Write three different phrases to describe this: $\frac{1}{3}$

   _____ _____ _____

7. It cost $46.05 for 15 gallons of gas. Write a ratio and then solve it to find the price per gallon.

8. Pat ran 3 miles in 20 minutes. How many miles did she run per minute?

9. Flo spent $11.60 on 5 pounds of hamburger. How much did she pay per pound of hamburger?

Name: _____ Date: _____

WORKSHEET 3-8A

Cross multiply and then solve for x.

1. $\frac{40}{x} = \frac{5}{1}$

2. $\frac{x}{16} = \frac{2}{8}$

3. $\frac{54}{x} = \frac{6}{1}$

4. $\frac{6}{36} = \frac{3}{x}$

5. $\frac{24}{12} = \frac{x}{2}$

6. $\frac{105}{5} = \frac{42}{x}$

7. $\frac{\frac{2}{5}}{x} = \frac{10}{50}$

Solve for x.

8. 7 is to 21 as x is to 6. $\left(\frac{7}{21} = \frac{x}{6}\right)$

9. 15 is to x as 30 is to 6.

10. x is to 100 as 9 is to 30

11. 7 is to 2 as 14 is to x.

Name:_____ Date:_____

WORKSHEET 3-8B

Use Proportions to solve the following.

1. There are 3 feet in 1 yard. How many yards are in 120 feet?

2. There are 12 inches in 1 foot. How many inches are in 8 feet?

3. There are 16 ounces in 1 pound. How many pounds in 128 ounces?

4. There are 3.28 feet in 1 meter. How many feet in 3 meters?

5. One gram equals .035 ounces. 14 grams equal how many ounces?

6. There are 2.54 centimeters in 1 inch. 5 inches equal how many centimeters?

7. There are 8 ounces in 1 cup and 16 cups in 1 gallon. How many ounces

Name: _____ Date: _____

WORKSHEET 3-9

1. $6^2 =$
2. $7^2 =$
3. $8^2 =$
4. $3^2 =$
5. $2^2 =$
6. $9^2 =$
7. $10^2 =$
8. $5^2 =$
9. $4^2 =$
10. $11^2 =$
11. $1^2 =$
12. $12^2 =$
13. $3^2 + 3^2 =$
14. $2^2 + 4^2 =$
15. $5^2 + 3^2 =$
16. $6^2 + 4^2 =$
17. $8^2 + 7^2 =$
18. $3^2 + 2^2 =$
19. $4^2 \cdot 2 =$
20. $5^2 \cdot 4 =$
21. $6^2 \cdot x =$
22. $6^2 \cdot \frac{1}{2} =$
23. $4^2 \div \frac{1}{2} =$
24. $2^2 \cdot 3^2 =$

Name: _____ Date: _____

WORKSHEET 3-10

1. $6^3 =$ 2. $7^3 =$ 3. $8^3 =$

4. $3^3 =$ 5. $2^3 =$ 6. $9^3 =$

7. $10^3 =$ 8. $5^3 =$ 9. $4^3 =$

10. $11^3 =$ 11. $1^3 =$ 12. $12^3 =$

Solve the following. Read the exponents carefully.

13. $3^3 + 3^2 =$ 14. $2^3 + 4^3 =$ 15. $5^3 + 3^2 =$

16. $6^2 + 4^3 =$ 17. $8^3 + 10 =$ 18. $3^3 + 2^3 =$

19. $5^3 \cdot 2 =$ 20. $5^3 \cdot 3 =$ 21. $4^3 \cdot y =$

22. $2^3 \cdot \frac{1}{4} =$ 23. $3^3 \div \frac{2}{7} =$ 24. $4^3 \cdot 7^2 =$

Name: _____ Date: _____

WORKSHEET 3-11

Solve the following.

1. $5^2 =$
2. $\sqrt{25} =$
3. $6^2 =$
4. $\sqrt{36} =$
5. $8^2 =$
6. $\sqrt{64} =$
7. $2^2 =$
8. $\sqrt{100} =$
9. $9^2 =$
10. $\sqrt{49} =$
11. $\sqrt{121} =$
12. $\sqrt{16} =$
13. $\sqrt{144} - \sqrt{16} =$
14. $\sqrt{4} + \sqrt{25} =$
15. $\sqrt{49} \cdot \sqrt{36} =$
16. $\sqrt{64} \cdot 2^2 =$
17. $\sqrt{100} \div 5 =$
18. $\sqrt{81} \cdot x = 36$

Name: _____ Date: _____

Chapter 1 Review Test

Solve for x.

1. $29 + x = 104$
2. $9x = 63$
3. $\frac{x}{4} = 6$
4. $\frac{48}{x} = 8$
5. $\frac{10}{x} \cdot \frac{14}{1} = 70$
6. $52 - x = 10$
7. $-201 - 3x = -225$
8. $\frac{1}{2}x + 12 = 10$
9. $\frac{11}{x} = 11$
10. $\frac{48}{x} + 12 = 24$
11. $\frac{9}{x} + 6 = 9$
12. $\frac{3}{5}x - 12 = -2\frac{2}{5}$

Solve for x in the following ratios.

13. $\frac{5}{x} = \frac{10}{12}$
14. $\frac{x}{32} = \frac{2}{8}$
15. $\frac{72}{9} = \frac{8}{x}$

Solve for x in terms of y.

16. $x + y = 325$
17. $\frac{x}{8} = y$
18. $x - 2 = y$

Solve the following.

19. $6^2 + 4^2 =$
20. $8^2 \cdot 10^2 =$
21. $\sqrt{81} \cdot \sqrt{36} =$
22. $5^3 \cdot y =$
23. $2^3 \div \frac{1}{6} =$
24. $\sqrt{100} \cdot 7^2 =$