Name: _____



Date: _____ Grade: _____

# *Basic Math Skills*

## CHAPTER 3 TEST

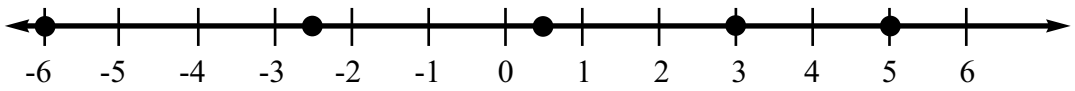
*Congratulations on completing this chapter!* ***Answer the following questions to test your understanding of the material. When you finish, hand in your test to your teacher for a final grade. Each answer is worth 1.7 points.***

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**1.** When multiplying or dividing numbers of like sign the answer will always be _____.
(a) positive (b) negative (c) whole (d) squared

**2.** Use the Distributive Property to simplify the following expression. Show your work.
5(4 + 2 - 3) _____

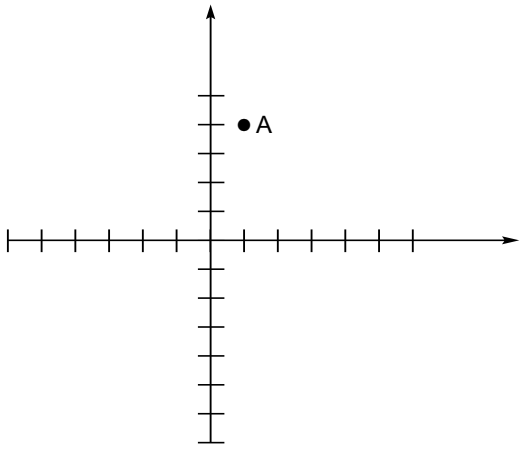
**3.** The numbers plotted on the number line below are _____.




(a) 6, $5\frac{1}{2}$, 1, $2\frac{1}{2}$, 3 (b) -6, 5, $\frac{1}{2}$, 2, $3\frac{1}{2}$ (c) -6, 5, $\frac{1}{2}$, $-2\frac{1}{2}$, 3 (d) -6, 5, $\frac{1}{2}$, 2, $3\frac{1}{2}$

**4.** A(n) _____ names the point in a Cartesian coordinate system.
(a) series of dots (b) line (c) point (d) ordered pair

**5.** On the grid below draw a line graph using the following points: A(1, 4), B(3, 2), C(5, 1) and D(6, 3). (A line graph is plotted left to right, just like reading a printed page.) The first point A(1, 4) is plotted for you.




**6.** _____ changes the sign of the subtrahend to the opposite sign.
(a) addition (b) subtraction (c) multiplication (d) division

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**Determine which number is greater than, >, or less than, <, and place the correct symbol on the blank between the numbers.**

**7.** 0 ____ -4

**8.** -1 _____ 1

**Perform the indicated operations.**

**9.** $10 - 3 - {}^{-}4 + 21 - {}^{+}3 =$ _____

**10.** $32 + -12 - {}^{-}5 - 32 =$ _____

**11.** Determine the final sign of the following multiplication problem: (place a + or - in the blank beside the expression). $3 \times (-6) \div -2 \times -6$ _____

**Simplify the following expressions. Be sure to watch your signs.**

**12.** $40 \times (-1) \div 5 =$ _____

**13.** $3 \times 6 \times (-1) \times (2) \times (-2) =$ _____

**Work the following problems.**

**14.** $[6(4)] \div (2 \bullet 3) =$ _____

**15.** $5 + \{2(6 \div 2)\} - 3 =$ _____

**16.** $2\{4 - 4[2(1 + 1) - 10] + 1\} =$ _____

**Look at the following problems and determine a value for the unknown to make the equation a true statement.**

**17.** $x - 3 = 6$ $x =$ _____

**18.** $a + 25 = 45$ $a =$ _____

**19.** $y + 70 = 75$ $y =$ _____

**Match the following (#20-23).**

**20.** _____ Associative Property of Addition (a) $a(b + c) = a \bullet b + a \bullet c$

**21.** _____ Distributive Property across addition (b) $a \bullet (b \bullet c) = (a \bullet b) \bullet c$

**22.** _____ Distributive Property across subtraction (c) $a(b - c) = a \bullet b - a \bullet c$

**23.** _____ Associative Property of Multiplication (d) $a + (b + c) = (a + b) + c$

**24.** A number that is raised to a power is called the _____.
(a) cube (b) square (c) base (d) exponent

**Use what you have learned about exponents to work #25-30.**

**25.** $4^2 - 3^2 =$ _____

**26.** $0^{75} =$ _____

**27.** $1^{1234} =$ _____

**28.** $289^0 =$ _____

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**29.** $67543^{1}$ = _____

**30.** $8^{-2}$ = ____

**31.** Which of the following is an example of the Property of Fractions with Exponents? ____
(a) $(\frac{4}{5})^2 = \frac{4 \cdot 4}{5 \cdot 5}$ (b) $(\frac{5}{7})^3 = \frac{5 \cdot 5}{7}$ (c) $\frac{7}{5}$ (d) $(\frac{4}{5})^2 = \frac{4 \cdot 2}{5 \cdot 2}$

**Simplify the following mathematical expressions (#32, 33). Remember to follow PEMDAS. Show your work.**

**32.** 2 • 2 + [4(4 ÷ 2) - 6] = _____

**33.** 32 - 6 + (-2)3 = _____

**34.** A meeting room in a large building is 40 ft wide and 30 ft long. The area of the room is _____ sq ft.

**35.** An 11" × 14" picture is placed inside of a 13" × 16" matte frame. Calculate the area of the matte. _____

**36.** $\sqrt{25}$ = _____ **37.** $\sqrt{121}$ =_____ **38.** $\sqrt[3]{-1}$= _____ **39.** $\sqrt[3]{216}$= _____

**40.** A welder needed a piece of metal in the shape of a square. He needed to cover 81 sq ft. How long will each side of the square be to obtain 81 sq ft of metal? _____

**41.** A storage building in the shape of a cube, 11 ft along a wall will hold _____ cubic ft of belongings.

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**42.** A computer company ships its computer monitors in a box shaped like a cube. The edges of the box measure 2.5 ft. The monitor is 2 ft high, 1 ft deep, and 2 ft wide. What is the volume of "popcorn" packing needed to fill the space between the monitor and the box? _____

**Work the following weight conversions in the English System. Use the space provided to set up your calculations. Write your answer in the blank.**

**43.** 1 gal = _____ pints

**44.** $^1/_4$ gal = _____ pints

**45.** 256 oz = _____ lbs

**46.** _____ lbs = 3 tons

**Work the following metric weight conversions. (47-48)**

**47.** 16 g = _____ mg

**48.** 21 kg = _____ g

**"Formulate" your answers. (49-53)**

**49.** Professor K took a trip to Flagstaff, AZ. The trip was 2,000 miles in length. Professor K purchased 110 gallons of gasoline during the trip. How many miles per gallon (mpg) did Professor K's car obtain during the trip? _____ (Round to the nearest tenth.)

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**50.** The formula for the total amount of money to be repaid on a loan is *A* (amount) = _____.

**51.** The formula for simple interest on a loan is _____.

**52.** Professor K loaned a friend some money. The friend insisted on paying Professor K some interest on the loan. Professor K only charged 3% on a loan of $1,200.00 for one year to his friend. Calculate the amount Professor K's friend paid Professor K per month for one year.

**53.** A local bank advertised new car loans for 4 years at 5% interest. Calculate the total amount of money to be repaid on a loan of $20,000.00. _____

**Choose the best meaning for each Life Principle.**

**54.** *"You are judged by the company you keep."*
(a) People assume we are like the persons with whom we most frequently associate.
(b) The company you keep will judge you according to their values.
(c) You are the judge of the company you keep.

**55.** *"The hardest thing is to find a person who can concentrate on what is important."*
(a) Finding important people who can concentrate is difficult.
(b) Finding people who will concentrate on important issues is difficult.
(c) It is hard to find people who are both consecrated and important.

**56.** *"By attempting the impossible, we may obtain the possible."*
(a) Attempting impossible things is possible.
(b) Achieving the impossible is within the realm of probability rather than merely possibility.
(c) Attempting more than we thought possible, even if we fall short of the goal, allows achievement of more than we would have obtained with lesser effort.

**57.** *"Success is shooting at and hitting a noble goal."*
(a) To be successful you must own a weapon capable of shooting at and hitting a target.
(b) Working toward a noble objective and especially achieving it defines success.
(c) A noble goal is to aim straight and hit the target.

**58.** *"Your interests are a reflection of who and what you are."*
(a) You reflect your interests to those with whom you associate.
(b) What you are determines how you reflect your interests to others.
(c) Who and what you are is reflected to others by the things that hold your interest.

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