Accelerated Review 1: **Decimals/Exponents/Algebraic Thinking** Name:

For full credit, show all work.

1.	Which statement is false? A Some integers are irrational. B Some integers are whole numbers. C Some rational numbers are integers. D Some real numbers are irrational.	A
2.	To which set or sets does the number 8.25 belong? A Integers only B Rational numbers only C Integers and Rational numbers only D Whole numbers, Integers, and Rational numbers	B
3.	Which rational number is also an integer? A $-\frac{82}{6}$ B $-\frac{65}{13}$ C $\frac{43}{5}$ D $\frac{70}{25}$	B
4.	Which number below is in the set of integers but is **not** in the set of whole numbers? A –2 B 0 C $5\frac{1}{2}$ D 100	A
5.	How many decimal places does an irrational number have? A Zero C Infinite B One D Between one and ten	C
6.	Classify the following square roots: $\sqrt{1}$ $\sqrt{5}$ $\sqrt{9}$ $\sqrt{20}$	Rational $\sqrt{1}$ $\sqrt{9}$ Irrational $\sqrt{5}$ $\sqrt{20}$

Solve.

7.	2.3 + 12.04	14.34	8.	2.6 • 33	85.8
9.	800 – 1.25	798.75	10.	$\frac{7.816}{0.05}$	156.32

Solve each problem. **Label your answers correctly.**

11.	Mrs. Loewen decides to buy donuts for all of her students. She buys 80 donuts at Krispy Kreme. The first 40 cost $0.60 each and then each additional donut is $0.52. How much money did Mrs. Loewen spend?	$44.80
12.	Carly initially earned a 9.625 on the balance beam. The judges then took off an additional 0.05 for every balance check. How many balance checks did Carly have if her final score was a 9.175?	9

13.	You want to buy a new video game which costs \$45. If you can earn \$3.75 per hour, how many hours do you have to work to earn enough money to buy the video game?	12
14.	Derek spends \$3 on breakfast and \$5.50 on lunch every school day. How much does he spend on breakfast and lunch in a school week? A \$38.50 C \$49.90 B \$42.50 D \$59.50	B
15.	A trampoline has a jumping surface that is 10.3 feet long and 9.2 feet wide. What is the area of the jumping surface? A $9.476\ ft^2$ C $947.6\ ft^2$ B $94.76\ ft^2$ D $9{,}476\ ft^2$	B
16.	Marco paid \$36.89 for 8.6 gallons of gas. What is the price of 1 gallon of gas?	\$4.29
17.	Alexis rode her bike 4.5 miles. Johnny rode his bike 0.8 times as far. How many miles did Johnny ride his bike?	3.6 mi
18.	Juan bought a box of laundry soap that weighed 15.6 pounds. One 0.15-pound scoop of soap is enough to wash a regular load of laundry, but 2 scoops are needed to wash heavy work clothes. How many pounds of soap are left after Juan washes 8 regular loads and 5 heavy loads of laundry?	12.9 lb

Write each expression using exponents.

19.	$3 \bullet 5 \bullet 3 \bullet 2 \bullet 5 \bullet 5$	$2 \bullet 3^2 \bullet 5^3$	20.	$2 \bullet 2 \bullet x \bullet x \bullet x \bullet 2$	$2^3 \bullet x^3$

21.	What is the first operation you should perform to evaluate the expression below? $9 \bullet 4 - \left(20 + 2^2\right)$ A multiplication C evaluating the exponent B addition D subtraction	C
22.	What is the first operation you should perform to evaluate the expression below? $\frac{2+3}{5+6}$ A add the numerator C multiply B divide 2 by 5 D divide 3 by 6	A
23.	What is the value of the expression below? $2 \bullet \frac{3^3+1}{7} + 5 \bullet 8$	48

Solve.

24.	$88 \div \left(\frac{32}{0.4} \right)$	1.1	25.	$\sqrt{1764}$	42
26.	$\sqrt{324}$	18	27.	28^2	784
28.	$\sqrt{40}$ (to the nearest tenth)	6.3	29.	$\sqrt{231}$ is between which two consecutive whole numbers?	15, 16

30.	What would not be included as part of an algebraic expression? A an equals sign B at least one variable C one or more numbers D an operation such as addition	A
31.	Jar Jar Binks decides he wants to sell cookies to all of his strange friends. He buys 4 bags of chocolate chips and 8 boxes of cookie mix for a total of \$24.25. Each bag of chocolate chips costs \$2.69. Which equations can be used to find the total cost of one box of cookie mix? A $t = (\$2.69 \bullet 4) + 24.25$ B $t = \$24.25 - (8 \bullet \$2.69)$ C $t = (\$24.25 - 4 \bullet \$2.69) \div 8$ D $t = (\$24.25 - \$2.69) \div 8$	C
32.	The Empire Inc. employs 2500 workers. It plans to decrease its workforce by 50 employees per month until it is half its current size. Which equation could be used to determine *m*, the number of months it will take to cut in half? A $2500m - 50m = 1250$ B $2m + 50 = 1250$ C $2(50m - 250) = 1250$ D $2500 - 50m = 1250$	D

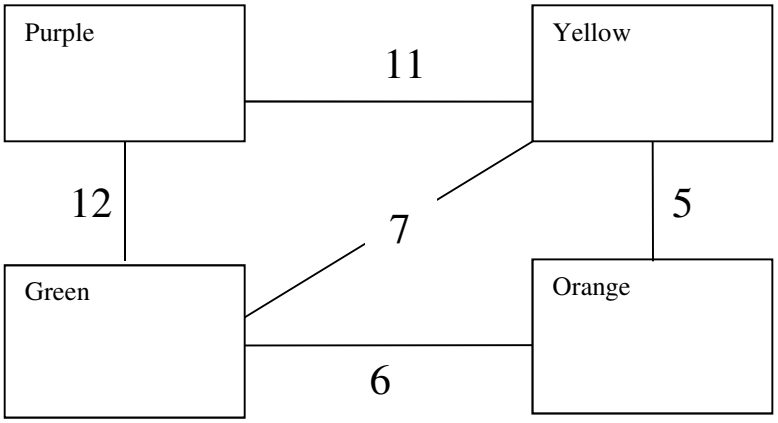
A = Associative Property **B = Identity Property**
C = Commutative Property **D = Distributive Property**

33.	Sarah asked Mr. Mangham what 6 times 82 equals. Being the math genius he is, Mr. Mangham replied that 6 times 80 is 480 and 6 times 2 is 12. When you add 480 and 12 together you get a total of 492. Which property did Mr. Mangham use?	D
34.	Jack asked Mr. Underwood what 59+67+41 equals. Being the math genius he is, Mr. Underwood replied that 59+41 equals 100. Add 67 more you get 167. Which property did Mr. Underwood use?	C
35.	Sam asked Mrs. Fauatea what $(17 \bullet 20) \bullet 5$ equals. Being the math genius she is, Mrs. Fauatea replied that the expression is that same as $17 \bullet (20 \bullet 5)$ which is obviously 1700. Which property did Mrs. Fauatea use?	A

Evaluate each expression.

36.	$4^3 + 2^3$	72	37.	$(11^2 - 9) \bullet 2$	224	38.	$(6.2 - 2) \bullet (8 - 1.3)$	28.14
39.	$5^3 - 3^2 \bullet 7$	62	40.	$15 - 3 \bullet 5 + 2$	2	41.	$64 - 12 \bullet \sqrt{4^2}$	16

42. For the jedi arena shown below, **write the correct equations** and then **solve for the number of jedis**.



Equations

$P + Y = 11$

$P + G = 12$

$Y + R = 5$

$Y + G = 7$

$G + R = 6$

$Y = 3 \quad G = 4$

$P = 8 \quad R = 2$

Evaluate each expression if $a = 4$, $b = 2$, $c = 6$, and $d = 9$, u=1.

43.	$\frac{b(d-c)+30}{3a}$	3	44.	$(2bad) + (4u)$	148

Write each phrase as an algebraic expression or equation.

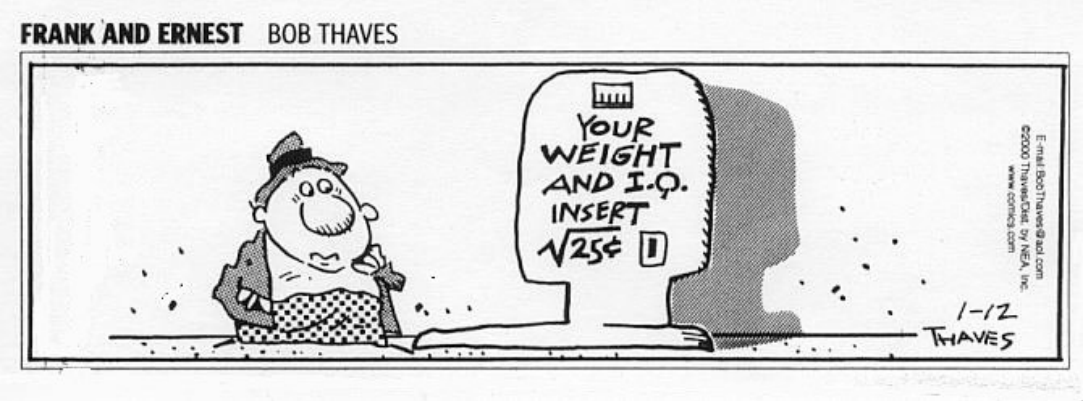
45.	three less than the square root of c	$\sqrt{c} - 3$
46.	twice a number increased by 7 is 55	$2x + 7 = 55$

Order from least to greatest.

47.	$\sqrt{130}, 11, (3.2)^2, \frac{0.45}{0.04}$	$(3.2)^2$	11	$\frac{0.45}{0.04}$	$\sqrt{130}$

48.	Mr. Mangham wrote the numbers below on the board. Which number is closest to 3? $\sqrt{6}, \sqrt{10}, \sqrt{12}, \sqrt{14}$	$\sqrt{10}$


HOW OFTEN DO YOU USE ALGEBRA IN YOUR DAILY LIFE, DAD?
NOT VERY OFTEN!
CHANGE BROWNE
THEN WHY DO I HAVE TO LEARN IT?
SO YOU CAN HELP YOUR SON WITH HIS HOMEWORK!
9-28


FRANK AND ERNEST BOB THAVES
YOUR WEIGHT AND I.Q. INSERT √25¢ D
1-12
THAVES
E-mail:BobThaves@aol.com
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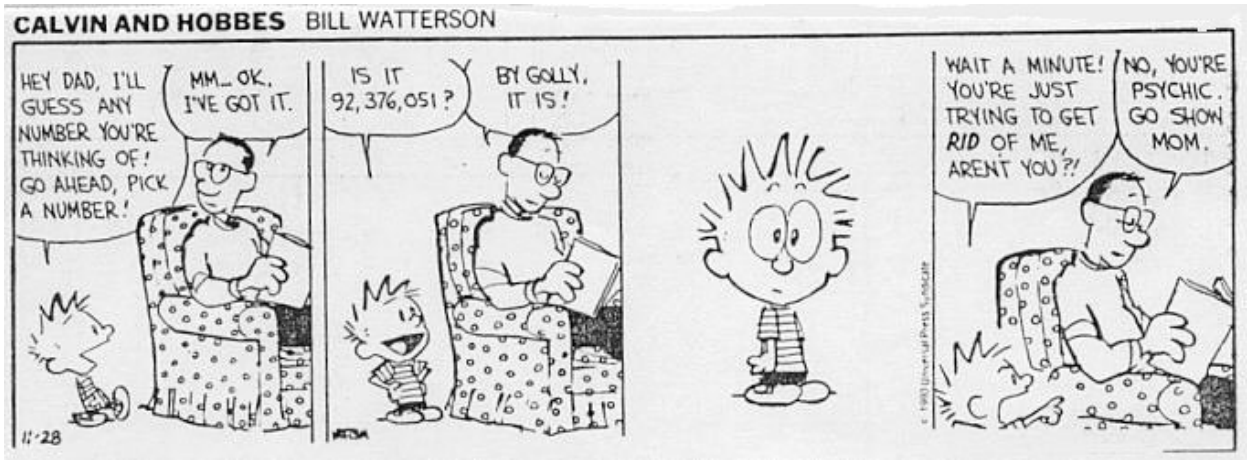
CALVIN AND HOBBES BILL WATTERSON
HEY DAD, I'LL GUESS ANY NUMBER YOU'RE THINKING OF! GO AHEAD, PICK A NUMBER!
MM... OK. I'VE GOT IT.
IS IT 92,376,051?
BY GOLLY, IT IS!
WAIT A MINUTE! YOU'RE JUST TRYING TO GET RID OF ME, AREN'T YOU?!
NO, YOU'RE PSYCHIC. GO SHOW MOM.
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