MATD 0370 – Elementary Algebra – Review Sheet for Exam #1
Show your work on your own paper – you will not receive credit for answers only
Do not write on this sheet

Remember, each problem represents a concept to review.

You can use a four-function calculator on the exam.

1) Multiply: $8(7x - 4y + 6)$

2) Multiply: $-5(y - 2)$

3) Factor: $10 + 50x$

4) Factor: $8m + 4 - 12v$

For problems 5 – 7, translate to an algebraic expression
5) 7 less than a number
6) 10 more than the product of x and z
7) 12 more than 6 times a number

8) Add and simplify: $\dfrac{5}{12} + \dfrac{3}{8}$

9) Subtract and simplify: $\dfrac{2}{3} - \dfrac{3}{15}$

10) Subtract and simplify: $\dfrac{5}{6} - \dfrac{2}{9}$

11) Multiply and simplify: $\dfrac{9}{10} \cdot \dfrac{6}{27}$

12) Divide and simplify: $\dfrac{3}{16} \div \dfrac{1}{4}$

13) Divide and simplify: $\dfrac{9}{5} \div \left(-\dfrac{3}{20}\right)$

14) Add and simplify: $\dfrac{-3}{9} + \dfrac{7}{9}$

15) Simplify: $\left|-8.2\right|$

Simplify for problems 16 – 23

16) $10 + (-8) + (-9)$ 17) $-2 - (-10)$ 18) $-4 - 6 + 5 + (-8)$ 19) $35 \div (-5)$

20) $2(-5)(-3)(5)$ 21) $3 - 7(-2 + 4)$ 22) $120 - 6^2 \div 4 \cdot 8$ 23) $5 + 3(8 - 11)^2$

Simplify for problems 24 – 26

24) $7x - 3y - 11x + 8y$ 25) $2x - 7x - (4x - 6)$ 26) $3x^2 + 11 - 2(2x^2 - 5)$

Simplify for problems 27 – 29

27) $(-4)^2$ 28) -4^2 29) $(-3w)^2$

30) Evaluate $\dfrac{9-x}{2y}$ for $x=-7$ and $y=4$

31) Evaluate $(-x)^2 - 5x$ for $x=-3$

32) Evaluate $12 - x^2$ for $x=-5$

Solve for problems 33 – 38.

33) $-\dfrac{x}{5} = 13$ 34) $3x-9=4x-7$ 35) $4(5x-7)=-56$

36) $\dfrac{2}{3} + \dfrac{1}{4}m = 2$ 37) $19-3(2x-1)=7$ 38) $-129=-7x-24$

39) Solve $Q = \dfrac{c+d}{2}$ for d

40) Solve $V = \dfrac{1}{3}Bh$ for B

41) 49 is 35% of what number?

42) What percent of 60 is 75?

43) In 2006, US retailers lost a record $41.6 billion due to theft and fraud. Of this amount, $20 billion was due to employee theft. What percent of the total loss was employee theft?

44) Marisa wrote a check for $987 for building materials. What was the pre-tax price of the materials if the sales tax was 5%?

45) To make copies of blueprints, Vantage Reprographics charges a $6 setup fee plus $4 per copy. Myra can spend no more than $65 for copying. What is the maximum number of copies that will allow her to stay in budget?

46) The measure of the second angle of a triangle is 50° more than that of the first. The measure of the third angle is 10° less than twice the first. Find the measures of the three angles.

47) An 18-ft. beam is cut into two pieces. One piece is 2 ft. longer than the other. How long is each piece?

48) A rectangular community garden is enclosed with 92 m of fencing. The garden is 4 m longer than it is wide. Find the dimensions of the garden.

49) Graph on a number line: $-2 < x \le 3$

For problems 50 and 51, solve and write your answer in set builder notation. Graph your answer on a number line.

50) $2+6y > 20$ 51) $3-4x \le 27$