MA 152 Exam 1 Spring 2000

Name: _____

Student ID: _____

Instructor: _____

Class Hour: _____

INSTRUCTIONS:

(1) There is no credit for guessing. You must show your work to receive credit!

(2) Please fill in all the above information and write your name on the top of each of the 4 exam pages.

(3) The point value on each problem appears to the left of the problem.

(4) You must show sufficient work to justify all answers. Correct answers with inconsistent work may not be given credit.

(5) No partial credit will be given on problems 1-3. Partial credit may be obtained on problems 4-10 provided sufficient work is shown.

(6) Circle the letter of the correct answer in problems 1-3, and write the answers to problems 4-10 in the space provided.

(7) No books or paper are allowed. Calculators may be used where appropriate.

(8) The exam is self-explanatory. Please do not ask the instructor to interpret any of the exam questions.

Page	Points	Max Possible
1		18
2		20
3		30
4		32
Total		100

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Circle your answer to problems 1-3. You must show work to receive credit.

(6 pts.) 1. Simplify completely.

$7x(2x + 5) – 3x$

A. $41x$

B. $14x^2 + 32x$

C. $14x^2 + 9x$

D. $–7x^2 + 35x$

E. $49x^2 – 3x$

(6 pts.) 2. $\dfrac{\frac{2}{5}+\frac{1}{7}}{\frac{7}{15}} =$

A. $\frac{57}{49}$

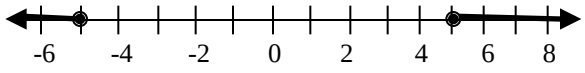
B. $\frac{15}{28}$

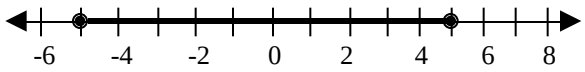
C. $\frac{133}{525}$

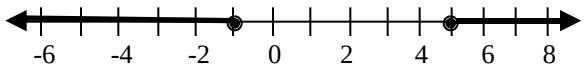
D. $\frac{7}{60}$

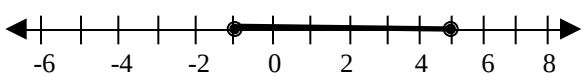
E. $\frac{36}{49}$

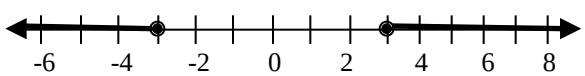
(6 pts.) 3. Which of the following real numbers lines represents the solution of $|x-2| \geq 3$?

A.


B.


C.


D.


E.


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Place your answers in the spaces provided. You must show work to receive credit.

(8 pts.) 4. To determine a person's Body Mass Index (BMI) multiply the person's weight in pounds by 703 then divide by his/her height in inches squared.

(6 pts.) a) Express BMI in algebraic notation using w for weight in pounds and h for height in inches.

BMI = [ ]

(2 pts.) b) Find the BMI for a 275-pound person who is 5 feet 11 inches tall. (12 inches = 1 foot) Round your answer to the nearest tenth.

BMI = [ ]

(12 pts.) 5. Write without negative exponents and simplify completely.

(6 pts.) a. $\left(\frac{6x^{-5}z^{4}}{8x^{-2}z^{-5}}\right)^{-2}$

[ ]

(6 pts.) b. $\left(\frac{h^{2}t^{0}}{k^{3}}\right)\left(\frac{k^{6}}{h^{5}kt^{2}}\right)$

[ ]

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(14 pts.) 6. Perform the indicated operations and simplify completely.

(6 pts.) a. $\frac{3}{x-3} + \frac{8}{x+3}$

(8 pts.) b. $\frac{3+\frac{1}{x}}{9-\frac{1}{x^2}}$

(16 pts.) 7. Factor completely.

(8 pts.) a. $6x^2 - 21x - 45$

(8 pts.) c. $y^3 + 3y^2 - 4y - 12$

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(10 pts.) 8. The length of a rectangle is three feet less than twice its width. If the perimeter of the rectangle is 87 feet, find its length and width. Name a variable, set up an equation and solve.

length = | |

width = | |

(10 pts.)

9. The average weight of four stones is 78 kg. If the weights of three of the stones are 40 kg, 72 kg and 95 kg, how much does the 4^{th} stone weigh? Name a variable, set up an equation and solve.

4^{th} stone's weight = | |

(12 pts.)

10. Jack distributed the coins in his collection to his 3 children. Mary received $\frac{4}{5}$ of the coins, Patty received $\frac{3}{7}$ of what was left, and John received the rest. If John received 24 coins, how many coins did Patty receive? Name a variable, set up an equation and solve.

Number of coins Patty received = | |