Question (number) - m - QUESTION GUIDE

Version 1

(1) **(2 points)** Which of these is correct?

(a) Wrong. (b) Wrong. (c) Correct.

Version 2

(2) **(2 points)** Which of these is correct?

(a) Wrong. (b) Wrong. (c) Correct. (d) Wrong.
(e) Wrong. (f) Wrong. (g) Wrong. (h) Wrong.
(i) Wrong. (j) Wrong.

Version 3

(3) **(2 points)** Which of these isn't mentally problematic?

(a) None of the below.
(b) $a \neq a$
(c) I've built a set that contains itself.
(d) All of the above.

Question (number) - m - QUESTION GUIDE

Version 1

(4) **(2 points)** Which of these is correct?

(a) Wrong. (b) Wrong. (c) Correct.

Version 2

(5) **(2 points)** Which of these is correct?

(a) Wrong. (b) Correct. (c) Wrong. (d) Wrong.
(e) Wrong. (f) Wrong. (g) Wrong. (h) Wrong.
(i) Wrong. (j) Wrong.

Version 3

(6) **(2 points)** Which of these isn't mentally problematic?

(a) None of the below.
(b) I've built a set that contains itself.
(c) $a \neq a$
(d) All of the above.

Question (number) - m - QUESTION GUIDE

Version 1

(7) **(2 points)** Which of these is correct?

(a) Correct. (b) Wrong. (c) Wrong.

Version 2

(8) **(2 points)** Which of these is correct?

(a) Wrong. (b) Wrong. (c) Wrong. (d) Correct.
(e) Wrong. (f) Wrong. (g) Wrong. (h) Wrong.
(i) Wrong. (j) Wrong.

Version 3

(9) **(2 points)** Which of these isn't mentally problematic?

(a) None of the below.
(b) $a \neq a$
(c) I've built a set that contains itself.
(d) All of the above.

Question (number) - m common denom

Version 1

(10) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x(x-1)}$ is

(a) $(x+1)(x-1)$
(b) $x+1$
(c) $x(x+1)(x-1)$
(d) $x(x+1)$

Version 2

(11) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is

(a) $x(x+1)$
(b) $x+1$
(c) $x(x+1)(x-1)$
(d) $(x+1)(x-1)$

Question (number) - q - QUESTION GUIDE

Version 1
Used to describe variations. Does not appear on exams, only in grading guides.

(12) **(12 points)** General question content.

Version 2
Question with multiple parts.

(13) **(12 points)** Any preamble.
   (a) A first part.

   (b) A second part.

Version 3

(14) **(12 points)** $a = 7$

Version 4

(15) **(12 points)** I successfully chose then number 1 at random.

Version 5

(16) **(12 points)** I successfully chose then number 3 at random.

Version 6

(17) **(12 points)**
   (a) $4 + 6 = 10$
   (b) $4 - 6 = -2$
   (c) $6^4 = 1296$
   (d) $4 \times 100 = 400$
   (e) $\log_6(4) = 0.7737056144690831$
   (f) 209 can be factored into two primes.

Version 7

(18) **(12 points)** 1.4, 1.17

Version 8

(19) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

Version 9

(20) **(12 points)** $0.12 < 0.12346$

Version 10

(21) **(12 points)** $5 \neq 7$

Version 11

(22) **(12 points)** $[2, 5, 6]$ contains $2, 5$, and 6.

Version 12

(23) **(12 points)**
(a) If I add -4 to $y = x^2$, the graph shifts down.
(b) $y = 4^x$
(c) $y = \frac{1}{x}$

Version 13

(24) **(12 points)** $5, 4, [1, 2, 3, 4]$

Version 14

(25) **(12 points)** $\frac{8}{-6} = \frac{-4}{3}$ or $\frac{-4}{3}$

Version 15

(26) **(12 points)** $\sqrt{8} = 2\sqrt{2}$

Version 16

(27) **(12 points)** $\dfrac{1+\sqrt{8}}{2} = \dfrac{1}{2} + \sqrt{2}$

Version 17

(28) **(12 points)** $3x^2 - x = xyz^3$

Version 18

(29) **(12 points)** $4x - 9y$

Version 19

(30) **(12 points)** 1597772 is awkward to read; 1,597,772is missing a space, 1,597,772 is nice, $1,597,772$ adds spacing that makes it confusing to read.

Version 20

(31) **(12 points)** 1,000,000.12345$\neq$ 1,000,000.1

Question (number) - q - QUESTION GUIDE

Version 1
Used to describe variations. Does not appear on exams, only in grading guides.

(32) **(12 points)** General question content.

Version 2
Question with multiple parts.

(33) **(12 points)** Any preamble.
   (a) A first part.

   (b) A second part.

Version 3

(34) **(12 points)** $a = 7$

Version 4

(35) **(12 points)** I successfully chose then number 1 at random.

Version 5

(36) **(12 points)** I successfully chose then number -2 at random.

Version 6

(37) **(12 points)**
   (a) $3 + 8 = 11$
   (b) $3 - 8 = -5$
   (c) $8^3 = 512$
   (d) $3 \times 100 = 300$
   (e) $\log_8(3) = 0.5283208335737188$
   (f) 187 can be factored into two primes.

Version 7

(38) **(12 points)** 1.59, 1.485

Version 8

(39) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

Version 9

(40) **(12 points)** $0.12 < 0.12346$

Version 10

(41) **(12 points)** $4 \neq 6$

Version 11

(42) **(12 points)** $[3, 7, 7]$ contains $3, 7$, and 7.

Version 12

(43) **(12 points)**
   (a) If I add 4 to $y = x^2$, the graph shifts up.
   (b) $y = 4(4^x)$
   (c) $y = \frac{1}{x}$

Version 13

(44) **(12 points)** $4, 5, [1, 2, 3, 5]$

Version 14

(45) **(12 points)** $\dfrac{12}{4} = 3$ or 3

Version 15

(46) **(12 points)** $\sqrt{20} = 2\sqrt{5}$

Version 16

(47) **(12 points)** $\dfrac{1+\sqrt{20}}{2} = \dfrac{1}{2} + \sqrt{5}$

Version 17

(48) **(12 points)** $3x^2 - x - 5 = xyz^3 - 5$

Version 18

(49) **(12 points)** $-4x + 10y$

Version 19

(50) **(12 points)** 1383580 is awkward to read; 1,383,580is missing a space, 1,383,580 is nice, $1,383,580$ adds spacing that makes it confusing to read.

Version 20

(51) **(12 points)** 1,000,000.12345$\neq$ 1,000,000.1

Question (number) - q - QUESTION GUIDE

Version 1
Used to describe variations. Does not appear on exams, only in grading guides.

(52) **(12 points)** General question content.

Version 2
Question with multiple parts.

(53) **(12 points)** Any preamble.
(a) A first part.

(b) A second part.

Version 3

(54) **(12 points)** $a = 7$

Version 4

(55) **(12 points)** I successfully chose then number 1 at random.

Version 5

(56) **(12 points)** I successfully chose then number 3 at random.

Version 6

(57) **(12 points)**
(a) $2 + 8 = 10$
(b) $2 - 8 = -6$
(c) $8^2 = 64$
(d) $2 \times 100 = 200$
(e) $\log_8(2) = 0.33333333333333337$
(f) 26 can be factored into two primes.

Version 7

(58) **(12 points)** 1.04, 1.066

Version 8

(59) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

Version 9

(60) **(12 points)** $0.12 < 0.12346$

Version 10

(61) **(12 points)** $4 \neq 3$

Version 11

(62) **(12 points)** $[3, 7, 7]$ contains $3, 7$, and 7.

Version 12

(63) **(12 points)**
- (a) If I add -4 to $y = x^2$, the graph shifts down.
- (b) $y = 4(4^x)$
- (c) $y = x$

Version 13

(64) **(12 points)** $4, 5, [1, 2, 3, 5]$

Version 14

(65) **(12 points)** $\frac{12}{-8} = \frac{-3}{2}$ or $\frac{-3}{2}$

Version 15

(66) **(12 points)** $\sqrt{20} = 2\sqrt{5}$

Version 16

(67) **(12 points)** $\dfrac{1+\sqrt{20}}{2} = \dfrac{1}{2} + \sqrt{5}$

Version 17

(68) **(12 points)** $3x^2 - x - 5 = xyz^3 - 5$

Version 18

(69) **(12 points)** $-4x + 9y$

Version 19

(70) **(12 points)** 1850493 is awkward to read; 1,850,493is missing a space, 1,850,493 is nice, $1,850,493$ adds spacing that makes it confusing to read.

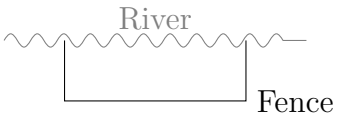
Version 20

(71) **(12 points)** 1,000,000.12345$\neq$ 1,000,000.1

Question (number) - q Fence Min Max

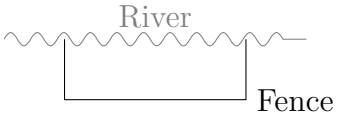
Version 1

(72) **(5 points)** You have 352 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, what is the largest area that can be enclosed?



Version 2

(73) **(5 points)** You have 352 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



Question (number) - q long division

Version 1

(74) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$(3x^2 + 7x - 8) \div (x + 4)$

Question (number) - q percentage problem

Version 1

(75) **(5 points)** Elridge Furniture discounts furniture 16% to customers paying cash. Jennifer paid $1043.52 cash for a roll-top desk. What was the original price of the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

Version 2

(76) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 16% and is being sold for $1043.52. How much did Elridge Furniture pay the distributer for the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

Version 3

(77) **(5 points)** In April of this year, Greenfield received 14.27 inches of rain. This was 16% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

Question (number) - q stopping distance

Version 1

(78) Solve each and include units in your answer. Use the formula: $s = \sqrt{21 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 25 miles per hour when a fawn suddenly appears 65 feet away in the middle of the road.

(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

Question (number) - q system moving unit

Version 1

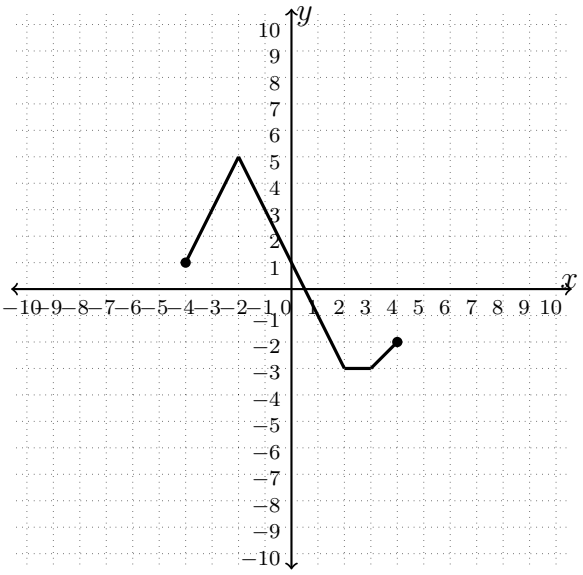
(79) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} 2x + 5y = 31 \\ 5x + y = 20 \end{cases}$$

Question (number) - q with a graph

Version 1

(80) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



(a) **(2 points)** $f(0)$

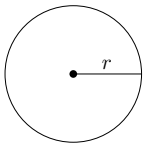
(b) **(2 points)** The domain.

(c) **(2 points)** The range.

Question (number) - q with an included image

Version 1

(81) Suppose the following circle has radius $r = 3$. What is the circumference of the circle?



Solutions:

(1) c
(2) c
(3) a
(4) c
(5) b
(6) a
(7) a
(8) d
(9) a
(10) c
(11) d
(12) Solution content.
(13) (a) First solution.
(b) Second solution.
(14)
(15)
(16)
(17)
(18)
(19)
(20)
(21)
(22)
(23)
(24)
(25)
(26)
(27)
(28)
(29)
(30)
(31)
(32) Solution content.
(33) (a) First solution.
(b) Second solution.
(34)
(35)
(36)
(37)
(38)
(39)
(40)
(41)
(42)
(43)

(44)
(45)
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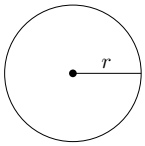
(47)
(48)
(49)
(50)
(51)
(52) Solution content.
(53) (a) First solution.
(b) Second solution.
(54)
(55)
(56)
(57)
(58)
(59)
(60)
(61)
(62)
(63)
(64)
(65)
(66)
(67)
(68)
(69)
(70)
(71)
(72) Largest area: 15488 ft^2
(73) Dimensions: 88 ft by 176 ft
(74) Question: $(3x^2 + 7x - 8) \div (x + 4)$
Solution: $3x - 5 + \dfrac{12}{x + 4}$
(75) Paid \$1043.52 for a desk that was 16% off. Original cost was \$1242.29.
(76) Desk marked up 16% to \$1043.52. Was originally \$899.59.
(77) Received 14.27 inches of rain, 16% less rain than normal. Normal is 16.99 inches.
(78) Formula $s = \sqrt{21 \cdot d}$. Deer is 65 feet away.
(a) If speed is 25 miles per hour, she will skid 29.762 feet.
(b) She will not hit the deer.
(79) $\begin{cases} 2x + 5y = 31 \\ 5x + y = 20 \end{cases}$; solution $(3, 5)$
(80) (a) 1
(b) Domain: $[-4, 4]$
(c) Range: $[-3, 5]$
(81) 9π


r