

Math 1AA3/1ZB3

1st Sample Test #1

Name: _____
(Last Name) (First Name)

Student Number: _____ Tutorial Number: _____

This test consists of 20 multiple choice questions worth 1 mark each (no part marks), and 1 question worth 1 mark (no part marks) on proper computer card filling. All questions must be answered on the COMPUTER CARD with an HB PENCIL. Marks will not be deducted for wrong answers (i.e., there is no penalty for guessing). You are responsible for ensuring that your copy of the test is complete. Bring any discrepancy to the attention of the invigilator. Calculators are NOT allowed.

1. Evaluate the following integral,

$$\int_0^{\sqrt[4]{\pi}} x^7 \sin x^4 dx$$

- (a) $\frac{\pi}{4}$ (b) $\frac{\pi}{3}$ (c) $\frac{\pi}{2}$ (d) π (e) $\frac{3\pi}{2}$

2. Which of the following series converge?

(i) $\sum_{n=1}^{\infty} \frac{e^{-\sqrt{n}}}{\sqrt{n}}$ (ii) $\sum_{n=2}^{\infty} \frac{1}{n(\ln n)^3}$

- (a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

3. What is the minimum number of terms needed in order to estimate the sum

$$\sum_{n=1}^{\infty} \frac{1}{(3n+5)^4}$$

correct to within .001?

- (a) 1 (b) 2 (c) 3 (d) 4 (e) 5

4. Evaluate the following improper integral.

$$\int_{-\infty}^0 x^4 e^{x^5} dx$$

- (a) 1 (b) $\frac{1}{4}$ (c) $\frac{1}{5}$ (d) 0 (e) Divergent

5. Evaluate the following integral.

$$\int \frac{x-9}{x^2+3x-10} dx$$

- (a) $\ln|x+5| - 2\ln|x-2|$ (b) $2\ln|x+5| - \ln|x-2|$
(c) $\ln|x+5| + 2\ln|x-2|$ (d) $-\ln|x+5| - 2\ln|x-2|$
(e) $2\ln|x+5| + \ln|x-2|$

6. Which of the below integrals is equal to

$$\int \frac{\sqrt{x^2-4}}{x^6} dx$$

(with an appropriately defined θ)?

- (a) $\int \frac{1}{16} \cos^3 \theta \sin^2 \theta d\theta$ (b) $\int \frac{1}{32} \cos^5 \theta \sin \theta d\theta$ (c) $\int \frac{1}{16} \cos^3 \theta \sin^3 \theta d\theta$
(d) $\int \frac{1}{16} \frac{\cos^2 \theta}{\sin^6 \theta} d\theta$ (e) $\int \frac{1}{32} \frac{\cos \theta}{\sin^6 \theta} d\theta$

7. Using the comparison theorem, which of the following integrals is convergent?

- (i) $\int_1^\infty \frac{x \sin^2 x}{\sqrt[3]{1+x^7}} dx$ (ii) $\int_1^\infty \frac{dx}{x+e^{2x}}$ (iii) $\int_2^\infty \frac{x^2}{\sqrt{x^6-1}} dx$
(a) (i) only (b) (ii) only (c) (i) and (ii) only (d) (i) and (iii) only (e) (ii) and (iii) only

8. Consider the sequence defined by $a_1 = 2$, $a_{n+1} = \frac{1}{2}(a_n + 6)$. Which of the following statements is correct?

- (a) $\{a_n\}$ is increasing and bounded above by 3
(b) $\{a_n\}$ converges to 5
(c) $\{a_n\}$ is increasing and bounded above by 5
(d) $\{a_n\}$ is increasing and bounded above by 6
(e) $\{a_n\}$ diverges

9. Determine whether the following sequences are convergent or divergent. When convergent, find the limit.

(i) $a_n = \frac{(-1)^n n^3}{n^3 + 2n^2 + 1}$

(ii) $a_n = n \sin(n\pi)$

- (a) diverges, diverges (b) diverges, 0 (c) 0, 0 (d) 1, diverges (e) 1, 0

10. If you were to use Mathematical Induction to show that

$$\sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6},$$

which of the following would be the second step?

- (a) Assume $\sum_{i=1}^k i^2 = \frac{k(k+1)(2k+1)}{6}$, and show that $\sum_{i=1}^k (i+1)^2 = \frac{(k+1)(k+2)(2k+3)}{6}$
- (b) Assume $\sum_{i=1}^k i^2 = \frac{k(k+1)(2k+1)}{6}$, and show that $\sum_{i=1}^{k+1} i^2 = \frac{(k-1)k(2k-1)}{6}$
- (c) Assume $\sum_{i=1}^k i^2 = \frac{k(k+1)(2k+1)}{6}$, and show that $\sum_{i=1}^{k-1} i^2 = \frac{(k-1)k(2k-1)}{6}$
- (d) Assume $\sum_{i=1}^k i^2 = \frac{k(k+1)(2k+1)}{6}$, and show that $\sum_{i=1}^{k+1} i^2 = \frac{(k+1)(k+2)(2k+3)}{6}$
- (e) Assume $\sum_{i=1}^k i^2 = \frac{k(k+1)(2k+1)}{6}$, and show that $\sum_{i=1}^{k-1} i^2 = \frac{(k+1)(k+2)(2k+3)}{6}$

11. Find the sum of the following series

$$\sum_{n=1}^{\infty} \frac{\sin^n x}{3^n}$$

- (a) $\frac{\sin x - 3}{3}$ (b) $\frac{3}{\sin x}$ (c) $\frac{\sin x}{3}$ (d) $\frac{\sin x}{3 - \sin x}$ (e) $\frac{3}{3 - \sin x}$

12. If the n^{th} partial sum of the series $\sum_{n=0}^{\infty} a_n$ is $s_n = \frac{2n+1}{4n+3} - \frac{n}{\ln n}$, find $\sum_{n=0}^{\infty} a_n$.

- (a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{1}{4}$ (d) $\frac{2}{3}$ (e) divergent

13. Which of the following series converge?

- (i) $\sum_{n=1}^{\infty} \frac{\sin^2 n}{n^3 + 2}$ (ii) $\sum_{n=1}^{\infty} \frac{n^3 + 3n^2 + n + 2}{\sqrt{n^7 + 4n^4 + n + 1}}$

- (a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

14. What is the minimum number of terms needed in order to estimate the following sum to within .001?

$$\sum_{n=1}^{\infty} \frac{(-1)^n}{(n+1)!}$$

(a) 2 (b) 3 (c) 4 (d) 5 (e) 6

15. Which of the following series converge?

(i) $\sum_{n=1}^{\infty} \frac{n+1}{2^n}$ (ii) $\sum_{n=1}^{\infty} (-1)^n \frac{1 \cdot 3 \cdot 5 \cdot 7 \cdot \dots \cdot (2n-1)}{(2n+1)!}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

16. Which of the following series are absolutely convergent?

(i) $\sum_{n=1}^{\infty} (-1)^n \left(\frac{n^2+2}{n^3+1} \right)^n$ (ii) $\sum_{n=1}^{\infty} \frac{(-1)^n}{n+3}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

17. Find the interval of convergence of

$$\sum_{n=1}^{\infty} \frac{n(3x+2)^n}{n^2+1}$$

(a) $(-\infty, \infty)$ (b) $[-\frac{1}{3}, -\frac{2}{3}]$ (c) $[-\frac{1}{3}, -\frac{2}{3})$ (d) $[-1, -\frac{1}{3}]$ (e) $[-1, -\frac{1}{3})$

18. If $\sum_{n=0}^{\infty} c_n 2^n$ is convergent, what can you conclude about the convergence of the following series?

(i) $\sum_{n=0}^{\infty} c_n (-2)^n$ (ii) $\sum_{n=0}^{\infty} c_n (-3)^n$

(a) convergent, nothing (b) convergent, convergent (c) nothing, divergent
(d) nothing, nothing (e) convergent, divergent

19. Find the radius of convergence of

$$\sum_{n=1}^{\infty} (n+1)!(3x-1)^n$$

(a) ∞ (b) 0 (c) 1 (d) $\frac{1}{3}$ (e) $\frac{2}{3}$

20. Find the radius of convergence of the following power series.

$$\sum_{n=0}^{\infty} (-1)^n \frac{1 \cdot 4 \cdot 7 \cdot \dots \cdot (3n - 2)}{n! 3^n} x^{3n}$$

- (a) $\sqrt[3]{3}$ (b) $\frac{1}{\sqrt[3]{3}}$ (c) 1 (d) 0 (e) ∞

21. Correctly fill out the bubbles corresponding to all 9 digits of your student number, as well as the version number of your test in the correct places on the computer card. (Use the below computer card for this sample test.)

Math 1AA3/1ZB3

2nd Sample Test #1

Name: _____
(Last Name) (First Name)

Student Number: _____ Tutorial Number: _____

This test consists of 20 multiple choice questions worth 1 mark each (no part marks), and 1 question worth 1 mark (no part marks) on proper computer card filling. All questions must be answered on the COMPUTER CARD with an HB PENCIL. Marks will not be deducted for wrong answers (i.e., there is no penalty for guessing). You are responsible for ensuring that your copy of the test is complete. Bring any discrepancy to the attention of the invigilator. Only the McMaster standard calculator Casio fx-991 is allowed.

1. Evaluate the following integral,

$$\int_{\ln(\pi/2)}^{\ln \pi} e^x \sin^2(e^x) dx$$

- (a) $\frac{\pi}{2}$ (b) $\frac{\pi}{3}$ (c) $\frac{\pi}{4}$ (d) $\frac{\pi}{6}$ (e) π

2. Evaluate the following integral.

$$\int \frac{1}{x^2 \sqrt{9+x^2}} dx$$

- (a) $\frac{1}{3} \left[\sec^{-1} x + \frac{\sqrt{9+x^2}}{x} \right] + C$ (b) $-\frac{1}{9} \frac{\sqrt{9+x^2}}{x} + C$ (c) $\frac{1}{3} \left[\tan^{-1} x + \frac{x}{\sqrt{9+x^2}} \right] + C$
(d) $\frac{1}{3} \left[x + \frac{\sqrt{9+x^2}}{x^2} \right] + C$ (e) $\frac{1}{3} \frac{x}{\sqrt{9+x^2}} + C$

3. Consider the sequence defined by $a_1 = 1$, $a_{n+1} = \frac{1}{3-a_n}$. To show that this sequence is monotonic using induction, which of the following would be the second step?

- (a) Assume that $a_{k+1} \geq a_k$ and show that $\frac{1}{3-a_{k+2}} \geq \frac{1}{3-a_{k+1}}$
(b) Assume that $a_{k+1} \geq a_k$ and show that $\frac{1}{3-a_{k+1}} \geq \frac{1}{3-a_k}$
(c) Assume that $a_{k+1} \leq a_k$ and show that $\frac{1}{3-a_{k+2}} \leq \frac{1}{3-a_{k+1}}$
(d) Assume that $a_{k+1} \leq a_k$ and show that $\frac{1}{3-a_{k+1}} \leq \frac{1}{3-a_k}$
(e) Assume that $\frac{1}{3-a_{k+2}} \leq \frac{1}{3-a_{k+1}}$ and show that $a_{k+1} \leq a_k$

4. Find the values of p for which the series is convergent.

$$\sum_{n=2}^{\infty} \frac{(\ln n)^{p-1}}{n}$$

- (a) $p \geq 1$ (b) $p < 0$ (c) $p \leq 0$ (d) $p < 1$ (e) $p \leq 1$

5. If we use the partial sum s_{10} to approximate the sum of the series

$$\sum_{n=1}^{\infty} \frac{1}{n^4}$$

estimate the error involved in the approximation.

- (a) $\frac{1}{3000}$ (b) $\frac{1}{5000}$ (c) $\frac{1}{10000}$ (d) $\frac{1}{1000}$ (e) $\frac{1}{14641}$

6. Evaluate the following improper integral

$$\int_1^{\infty} \frac{1}{3x-2} dx$$

- (a) $\ln 3$ (b) $\ln 2$ (c) 0 (d) divergent (e) 1

7. Evaluate the following improper integral

$$\int_1^{\infty} \frac{\ln x}{x^2} dx$$

- (a) 0 (b) 1 (c) $\ln 2$ (d) $\frac{1}{2}$ (e) Divergent

8. Evaluate the following sum:

$$\sum_{n=4}^{\infty} \frac{1}{n(n+1)}$$

- (a) divergent (b) $\frac{1}{3}$ (c) 1 (d) $\frac{1}{4}$ (e) $\frac{1}{5}$

9. Determine whether the following sequences are convergent or divergent. When convergent, find the limit.

(i) $a_n = \ln(n+1) - \ln(2n)$

(ii) $a_n = n \sin(1/n)$

(a) divergent, divergent (b) divergent, 0 (c) $\ln \frac{1}{2}$, divergent (d) $\ln \frac{1}{2}$, 0

(e) $\ln \frac{1}{2}$, 1

10. A sequence a_n is defined by $a_1 = 1$ and $a_{n+1} = \frac{1}{1+a_n}$. Assuming $\{a_n\}$ is convergent, find its limit.

(a) 2 (b) 1 (c) 0 (d) $\frac{-1 + \sqrt{5}}{2}$ (e) $\frac{-1 - \sqrt{5}}{2}$

11. Find the sum of the following series

$$\frac{1}{3} - \frac{1}{4} + \frac{3}{16} - \frac{9}{64} + \dots$$

(a) $\frac{4}{21}$ (b) $\frac{4}{3}$ (c) $\frac{4}{7}$ (d) 4 (e) $\frac{1}{12}$

12. Find the values of x for which the series converges

$$\sum_{n=0}^{\infty} \frac{(2x+5)^n}{3^n}$$

(a) $(-\frac{2}{3}, \frac{5}{3})$ (b) $(-8, -2)$ (c) $(-3, 3)$ (d) $(-\frac{2}{5}, \frac{2}{5})$ (e) $(-1, -4)$

13. Which of the following series converge?

(i) $\frac{1}{2} + \frac{1}{6} + \frac{1}{10} + \frac{1}{14} + \frac{1}{18} + \dots$ (ii) $\sum_{n=1}^{\infty} 2^{2n} 3^{1-n}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

14. Which of the following series converge?

(i) $\sum_{n=0}^{\infty} \frac{1+5^n}{1+6^n}$ (ii) $\sum_{n=1}^{\infty} \frac{\arctan n}{n^2}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

15. Which of the following series converge?

(i) $\frac{4}{7} - \frac{5}{8} + \frac{6}{9} - \frac{7}{10} + \frac{8}{11} - \dots$ (ii) $\sum_{n=2}^{\infty} (-1)^n \frac{\ln n}{n}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

16. Which of the following series are conditionally convergent?

(i) $\sum_{n=1}^{\infty} (-1)^n \frac{n}{n^2 + 1}$ (ii) $\sum_{n=1}^{\infty} (-1)^n \frac{n^2}{3^n + 2}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

17. Which of the following series converge?

(i) $\sum_{n=1}^{\infty} \frac{4^n n^3}{(n+1)!}$ (ii) $\sum_{n=1}^{\infty} (-1)^n e^{1/n}$

(a) (i) only (b) (ii) only (c) (i) and (ii) (d) neither

18. Find the interval of convergence of

$$\sum_{n=1}^{\infty} (-1)^n \frac{x^n}{n2^n}$$

(a) $[-1, 1]$ (b) $(-\frac{1}{2}, \frac{1}{2}]$ (c) $[-\frac{1}{2}, \frac{1}{2}]$ (d) $(-2, 2]$ (e) $[-2, 2]$

19. If $\sum_{n=0}^{\infty} c_n (x - 5)^n$ converges when $x = 3$, what can you say about the convergence of the following series?

(i) $\sum_{n=0}^{\infty} c_n (-1)^n$ (ii) $\sum_{n=0}^{\infty} c_n 2^n$

(a) convergent, nothing (b) divergent, nothing (c) convergent, convergent
(d) nothing, nothing (e) convergent, divergent

20. Find the radius of convergence of

$$\sum_{n=1}^{\infty} \frac{(2x + 3)^n}{2^n (n + 1)}$$

(a) 1 (b) 2 (c) 3 (d) $\frac{2}{3}$ (e) $\frac{3}{2}$

- ## CLASSROOM ANSWER SHEET

STUDENT NUMBER

.....

NAME

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Date

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SHEET #

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OF

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COURSE

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SECTION

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SIGNATURE

(in pen)

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INSTRUCTOR'S NAME

.....

EXAMINATION ANSWER SHEET

STUDENT NUMBER

.....

VERSION

.....

SEAT NUMBER

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ROOM

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ROW

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SEAT

.....

MARKING DIRECTIONS

 - Use HB black lead pencil only.
 - Do not use ink or ballpoint pens.
 - Make heavy black marks that fill the circle completely.
 - Erase cleanly any answer you wish to change.
 - Make no stray marks on the answer sheet.

EXAMPLES

WRONG

1 ☒ 3 ☐ 4 ☐ 5

2 ☐ 2 ☒ 4 ☐ 5

3 ☐ 1 ☐ 2 ☒ 3 ☐ 5

WRONG

4 ☐ 1 ☐ 2 ☒ 3 ☐ 5

RIGHT

4 ☐ 1 ☐ 2 ☒ 3 ☐ 5

SIDE 1

<p>T F</p> <p>1 1 2 3 4 5</p> <p>A B C D E</p> <p>2 1 2 3 4 5</p> <p>A B C D E</p> <p>3 1 2 3 4 5</p> <p>A B C D E</p> <p>4 1 2 3 4 5</p> <p>A B C D E</p> <p>5 1 2 3 4 5</p> <p>A B C D E</p> <p>6 1 2 3 4 5</p> <p>A B C D E</p> <p>7 1 2 3 4 5</p> <p>A B C D E</p> <p>8 1 2 3 4 5</p> <p>A B C D E</p> <p>9 1 2 3 4 5</p> <p>A B C D E</p> <p>10 1 2 3 4 5</p> <p>A B C D E</p> <p>11 1 2 3 4 5</p> <p>A B C D E</p> <p>12 1 2 3 4 5</p> <p>A B C D E</p> <p>13 1 2 3 4 5</p> <p>A B C D E</p> <p>14 1 2 3 4 5</p> <p>A B C D E</p> <p>15 1 2 3 4 5</p> <p>A B C D E</p> <p>16 1 2 3 4 5</p> <p>A B C D E</p> <p>17 1 2 3 4 5</p> <p>A B C D E</p> <p>18 1 2 3 4 5</p> <p>A B C D E</p> <p>19 1 2 3 4 5</p> <p>A B C D E</p> <p>20 1 2 3 4 5</p> <p>A B C D E</p> <p>21 1 2 3 4 5</p> <p>A B C D E</p> <p>22 1 2 3 4 5</p> <p>A B C D E</p> <p>23 1 2 3 4 5</p> <p>A B C D E</p> <p>24 1 2 3 4 5</p> <p>A B C D E</p> <p>25 1 2 3 4 5</p>	<p>T F</p> <p>26 1 2 3 4 5</p> <p>A B C D E</p> <p>27 1 2 3 4 5</p> <p>A B C D E</p> <p>28 1 2 3 4 5</p> <p>A B C D E</p> <p>29 1 2 3 4 5</p> <p>A B C D E</p> <p>30 1 2 3 4 5</p> <p>A B C D E</p> <p>31 1 2 3 4 5</p> <p>A B C D E</p> <p>32 1 2 3 4 5</p> <p>A B C D E</p> <p>33 1 2 3 4 5</p> <p>A B C D E</p> <p>34 1 2 3 4 5</p> <p>A B C D E</p> <p>35 1 2 3 4 5</p> <p>A B C D E</p> <p>36 1 2 3 4 5</p> <p>A B C D E</p> <p>37 1 2 3 4 5</p> <p>A B C D E</p> <p>38 1 2 3 4 5</p> <p>A B C D E</p> <p>39 1 2 3 4 5</p> <p>A B C D E</p> <p>40 1 2 3 4 5</p> <p>A B C D E</p> <p>41 1 2 3 4 5</p> <p>A B C D E</p> <p>42 1 2 3 4 5</p> <p>A B C D E</p> <p>43 1 2 3 4 5</p> <p>A B C D E</p> <p>44 1 2 3 4 5</p> <p>A B C D E</p> <p>45 1 2 3 4 5</p> <p>A B C D E</p> <p>46 1 2 3 4 5</p> <p>A B C D E</p> <p>47 1 2 3 4 5</p> <p>A B C D E</p> <p>48 1 2 3 4 5</p> <p>A B C D E</p> <p>49 1 2 3 4 5</p> <p>A B C D E</p> <p>50 1 2 3 4 5</p>
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1. a 2. c 3. a 4. c 5. b 6. a 7. c 8. d 9. b 10. d
11. d 12. e 13. a 14. d 15. c 16. a 17. e 18. d 19. b 20. c
21.

STUDENT NUMBER

Put the date here

COURSE

NAME

SHEET # OF

SECTION

SIGNATURE

INSTRUCTOR'S NAME

McMaster University

EXAMINATION ANSWER SHEET

Use all 9 digits of your student number, including leading zero (if any)

STUDENT NUMBER

0 0 8 8 1 6 1 3 2

SEAT NUMBER

ROOM ROW SEAT

Ignore this part

MARKING DIRECTIONS

- Use HB black lead pencil only.
- Do not use ink or ballpoint pens.
- Make heavy black marks that fill the circle completely.
- Erase cleanly any answer you wish to change.
- Make no stray marks on the answer sheet.

Read these directions

EXAMPLES

WRONG

1 1 1 1 1 1 1 1 1

WRONG

2 1 2 1 2 1 2 1 2

WRONG

3 1 2 3 1 2 3 1 2

RIGHT

4 1 2 3 4 5 6 7 8 9

CLASSROOM ANSWER SHEET

Use Side 1

SIDE 1

Fill in 9 of these bubbles (one filled bubble per column)

Put the version number here (fill in one of the bubbles in the version column)

Version	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	1	2	3	4	5	6	7	8	9
3	1	2	3	4	5	6	7	8	9
4	1	2	3	4	5	6	7	8	9
5	1	2	3	4	5	6	7	8	9
6	1	2	3	4	5	6	7	8	9
7	1	2	3	4	5	6	7	8	9
8	1	2	3	4	5	6	7	8	9
9	1	2	3	4	5	6	7	8	9

Use Side 2

SIDE 2

Fill in 9 of these bubbles (one filled bubble per column)

Put the version number here (fill in one of the bubbles in the version column)

Version	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	1	2	3	4	5	6	7	8	9
3	1	2	3	4	5	6	7	8	9
4	1	2	3	4	5	6	7	8	9
5	1	2	3	4	5	6	7	8	9
6	1	2	3	4	5	6	7	8	9
7	1	2	3	4	5	6	7	8	9
8	1	2	3	4	5	6	7	8	9
9	1	2	3	4	5	6	7	8	9

Use Side 3

SIDE 3

Fill in 9 of these bubbles (one filled bubble per column)

Put the version number here (fill in one of the bubbles in the version column)

Version	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	1	2	3	4	5	6	7	8	9
3	1	2	3	4	5	6	7	8	9
4	1	2	3	4	5	6	7	8	9
5	1	2	3	4	5	6	7	8	9
6	1	2	3	4	5	6	7	8	9
7	1	2	3	4	5	6	7	8	9
8	1	2	3	4	5	6	7	8	9
9	1	2	3	4	5	6	7	8	9

Use Side 4

SIDE 4

Fill in 9 of these bubbles (one filled bubble per column)

Put the version number here (fill in one of the bubbles in the version column)

Version	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	1	2	3	4	5	6	7	8	9
3	1	2	3	4	5	6	7	8	9
4	1	2	3	4	5	6	7	8	9
5	1	2	3	4	5	6	7	8	9
6	1	2	3	4	5	6	7	8	9
7	1	2	3	4	5	6	7	8	9
8	1	2	3	4	5	6	7	8	9
9	1	2	3	4	5	6	7	8	9

Use Side 5

SIDE 5

Fill in 9 of these bubbles (one filled bubble per column)

Put the version number here (fill in one of the bubbles in the version column)

NOTE: On the sample tests, a version number is not given. On the actual tests, it will say "Version X" at the top, where X is the version number that you will have to fill in on the computer card. The sample above assumes that your student number is 008816132. On the actual test, you will have to fill in the bubbles corresponding to YOUR student number (not 008816132).

Answers for 2nd Sample Test #1

1. c 2. b 3. d 4. b 5. a 6. d 7. b 8. d 9. e 10. d
11. a 12. e 13. d 14. c 15. b 16. a 17. a 18. d 19. a 20. a
21. see the answer to #21 on the first sample test above.