

CHAPTER 3-2

SOLVING TWO STEP EQUATIONS

1. 010636a, P.I. A.A.22

Solve for x : $\frac{1}{16}x + \frac{1}{4} = \frac{1}{2}$

2. 080708a, P.I. A.A.22

In the equation $\frac{1}{4}n + 5 = 5\frac{1}{2}$, n is equal to

[A] 2 [B] $\frac{1}{8}$ [C] $\frac{1}{2}$ [D] 8

3. 080219a, P.I. A.A.6

If $2x + 5 = -25$ and $-3m - 6 = 48$, what is the product of x and m ?

[A] -270 [B] 270 [C] -33 [D] 3

4. 060519a, P.I. A.A.6

If $-2x + 3 = 7$ and $3x + 1 = 5 + y$, the value of y is

[A] 10 [B] 0 [C] 1 [D] -10

5. 080213a, P.I. A.A.6

How many times larger than $\frac{1}{4}x$ is $5x$?

[A] $\frac{4}{5}$ [B] 9 [C] 20 [D] $\frac{5}{4}$

6. 010801a, P.I. A.A.6

Robin spent \$17 at an amusement park for admission and rides. If she paid \$5 for admission, and rides cost \$3 each, what is the total number of rides that she went on?

[A] 2 [B] 12 [C] 4 [D] 9

7. 060409a, P.I. A.A.6

At the beginning of her mathematics class, Mrs. Reno gives a warm-up problem. She says, "I am thinking of a number such that 6 less than the product of 7 and this number is 85." Which number is she thinking of?

[A] 637 [B] 13 [C] 84 [D] $11\frac{2}{7}$

8. 060233a, P.I. A.N.5

Mr. Perez owns a sneaker store. He bought 350 pairs of basketball sneakers and 150 pairs of soccer sneakers from the manufacturers for \$62,500. He sold all the sneakers and made a 25% profit. If he sold the soccer sneakers for \$130 per pair, how much did he charge for one pair of basketball sneakers?

9. 010733a, P.I. A.A.6

Every month, Omar buys pizzas to serve at a party for his friends. In May, he bought three more than twice the number of pizzas he bought in April. If Omar bought 15 pizzas in May, how many pizzas did he buy in April?

CHAPTER 3-3

COMBINING LIKE TERMS

10. 080623a

The expression $2x^2 - x^2$ is equivalent to

[A] x^2 [B] 2 [C] x^0 [D] $-2x^4$

11. 060214a, P.I. A.A.22

What is the solution of the equation $3y - 5y + 10 = 36$?

[A] -13 [B] 13 [C] 4.5 [D] 2

12. fall0727ia, P.I. A.A.17

What is the sum of $\frac{d}{2}$ and $\frac{2d}{3}$ expressed in simplest form?

[A] $\frac{7d}{6}$ [B] $\frac{7d}{5}$ [C] $\frac{3d}{5}$ [D] $\frac{3d}{6}$

13. 060625a, P.I. A.A.17

The expression $\frac{5x}{6} + \frac{x}{4}$ is equivalent to

- [A] $\frac{5x}{24}$ [B] $\frac{13x}{12}$ [C] $\frac{3x}{5}$ [D] $\frac{5x^2}{10}$

14. 010719a, P.I. A.A.22

What is the value of x in the equation

$$\frac{x}{2} + \frac{x}{6} = 2?$$

- [A] 3 [B] 12 [C] $\frac{1}{4}$ [D] 8

15. 010507a, P.I. A.A.22

What is the solution set of the equation

$$\frac{x}{5} + \frac{x}{2} = 14?$$

- [A] {49} [B] {4} [C] {20} [D] {10}

16. 069925a, P.I. A.A.6

Sara's telephone service costs \$21 per month plus \$0.25 for each local call, and long-distance calls are extra. Last month, Sara's bill was \$36.64, and it included \$6.14 in long-distance charges. How many local calls did she make?

17. 010224a, P.I. A.A.1

Ashanti and Maria went to the store to buy snacks for their back-to-school party. They bought bags of chips, pretzels, and nachos. They bought three times as many bags of pretzels as bags of chips, and two fewer bags of nachos than bags of pretzels. If x represents the number of bags of chips they bought, express, in terms of x , how many bags of snacks they bought in all.

18. 080024a, P.I. A.A.6

The sum of the ages of the three Romano brothers is 63. If their ages can be represented as consecutive integers, what is the age of the middle brother?

CHAPTER 3-4

USING THE DISTRIBUTIVE PROPERTY

19. 080413a, P.I. A.N.1

Which equation illustrates the distributive property of multiplication over addition?

[A] $6(3a + 4b) = 6(4b + 3a)$

[B] $6(3a + 4b) = (3a + 4b)6$

[C] $6(3a + 4b) = 18a + 4b$

[D] $6(3a + 4b) = 18a + 24b$

20. 080015a, P.I. A.A.22

Solve for x : $15x - 3(3x + 4) = 6$

- [A] 1 [B] 3 [C] $-\frac{1}{2}$ [D] $\frac{1}{3}$

21. 080406a, P.I. A.A.22

What is the value of n in the equation $0.6(n + 10) = 3.6$?

- [A] 4 [B] 5 [C] -4 [D] -0.4

22. 080602a, P.I. A.A.22

What is the value of p in the equation $2(3p - 4) = 10$?

- [A] $2\frac{1}{3}$ [B] $\frac{1}{3}$ [C] 3 [D] 1

23. 060406a, P.I. A.A.6

Parking charges at Superior Parking Garage are \$5.00 for the first hour and \$1.50 for each additional 30 minutes. If Margo has \$12.50, what is the maximum amount of time she will be able to park her car at the garage?

- [A] $2\frac{1}{2}$ hours [B] $3\frac{1}{2}$ hours

- [C] 6 hours [D] $6\frac{1}{2}$ hours

24. 010726a, P.I. A.A.6
Mario paid \$44.25 in taxi fare from the hotel to the airport. The cab charged \$2.25 for the first mile plus \$3.50 for each additional mile. How many miles was it from the hotel to the airport?
[A] 11 [B] 10 [C] 13 [D] 12
25. 010635a, P.I. A.A.6
A candy store sells 8-pound bags of mixed hazelnuts and cashews. If c pounds of cashews are in a bag, the price p of the bag can be found using the formula $p = 2.59c + 1.72(8 - c)$. If one bag is priced at \$18.11, how many pounds of cashews does it contain?

CHAPTER 3-5

FRACTION MADNESS

26. 080114a, P.I. A.N.5
In his will, a man leaves one-half of his money to his wife, one-half of what is then left to his older child, and one-half of what is then left to his younger child. His two cousins divide the remainder equally, each receiving \$2,000. What was the total amount of money in the man's will?
[A] \$40,000 [B] \$16,000
[C] \$32,000 [D] \$24,000
27. 060116a, P.I. A.N.5
A boy got 50% of the questions on a test correct. If he had 10 questions correct out of the first 12, and $\frac{1}{4}$ of the remaining questions correct, how many questions were on the test?
[A] 24 [B] 16 [C] 26 [D] 28
28. 080228a, P.I. A.N.5
There are 28 students in a mathematics class. If $\frac{1}{4}$ of the students are called to the guidance office, $\frac{1}{3}$ of the remaining students are called to the nurse, and, finally, $\frac{1}{2}$ of those left go to the library, how many students remain in the classroom?
29. 060328a, P.I. A.N.5
In a town election, candidates A and B were running for mayor. There were 30,500 people eligible to vote, and $\frac{3}{4}$ of them actually voted. Candidate B received $\frac{1}{3}$ of the votes cast. How many people voted for candidate B ? What percent of the votes cast, to the nearest tenth of a percent, did candidate A receive?
30. 080029a, P.I. A.N.5
After an ice storm, the following headlines were reported in the *Glacier County Times*:
Monday: Ice Storm Devastates County - 8 out of every 10 homes lose electrical power
Tuesday: Restoration Begins - Power restored to $\frac{1}{2}$ of affected homes
Wednesday: More Freezing Rain - Power lost by 20% of homes that had power on Tuesday
Based on these headlines, what fractional portion of homes in Glacier County had electrical power on Wednesday?

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LOGICAL REASONING

31. 060110a
At a school costume party, seven girls wore masks and nine boys did not. If there were 15 boys at the party and 20 students did not wear masks, what was the total number of students at the party?
- [A] 30 [B] 35 [C] 42 [D] 33
32. 010214a
Frank, George, and Hernando are a plumber, a cabinet maker, and an electrician, though not necessarily in that order. Each can do all work appropriate to his own field, but no work in other fields. Frank was not able to install a new electric line in his home. Hernando was not able to make cabinets. George is also a building contractor who hired one of the other people to do his electrical work. Which statement must be true?
- [A] Hernando is an electrician.
[B] Frank is a plumber.
[C] Frank is an electrician.
[D] George is a cabinet maker.
33. 080026a
John, Dan, Karen, and Beth went to a costume ball. They chose to go as Anthony and Cleopatra, and Romeo and Juliet. John got the costumes for Romeo and Cleopatra, but not his own costume. Dan saw the costumes for Juliet and himself. Karen went as Anthony. Beth drove two of her friends, who were dressed as Anthony and Cleopatra, to the ball. What costume did John wear?

CHAPTER 3-6

PROBABILITY OF MULTIPLE EVENTS

34. 080430a, P.I. A.S.23
Selena and Tracey play on a softball team. Selena has 8 hits out of 20 times at bat, and Tracey has 6 hits out of 16 times at bat. Based on their past performance, what is the probability that both girls will get a hit next time at bat?
- [A] 1 [B] $\frac{31}{40}$ [C] $\frac{48}{320}$ [D] $\frac{14}{36}$
35. 060305a, P.I. A.S.23
Bob and Laquisha have volunteered to serve on the Junior Prom Committee. The names of twenty volunteers, including Bob and Laquisha, are put into a bowl. If two names are randomly drawn from the bowl without replacement, what is the probability that Bob's name will be drawn first and Laquisha's name will be drawn second?
- [A] $\frac{2}{20}$ [B] $\frac{2}{20!}$
[C] $\frac{1}{20} \cdot \frac{1}{20}$ [D] $\frac{1}{20} \cdot \frac{1}{19}$
36. 010525a, P.I. A.S.23
A student council has seven officers, of which five are girls and two are boys. If two officers are chosen at random to attend a meeting with the principal, what is the probability that the first officer chosen is a girl and the second is a boy?
- [A] $\frac{7}{14}$ [B] $\frac{2}{7}$ [C] $\frac{10}{42}$ [D] $\frac{7}{13}$

37. 060529a, P.I. A.S.23
The probability that the Cubs win their first game is $\frac{1}{3}$. The probability that the Cubs win their second game is $\frac{3}{7}$. What is the probability that the Cubs win both games?
- [A] $\frac{1}{7}$ [B] $\frac{2}{5}$ [C] $\frac{6}{7}$ [D] $\frac{16}{21}$
38. 080127a, P.I. A.S.23
There are four students, all of different heights, who are to be randomly arranged in a line. What is the probability that the tallest student will be first in line and the shortest student will be last in line?
39. 060130a, P.I. A.S.23
Mr. Yee has 10 boys and 15 girls in his mathematics class. If he chooses two students at random to work on the blackboard, what is the probability that both students chosen are girls?
42. 010009a, P.I. A.N.5
Twenty-five percent of 88 is the same as what percent of 22?
- [A] 100% [B] $12\frac{1}{2}\%$
[C] 40% [D] 50%
43. 060222a, P.I. A.N.5
Ninety percent of the ninth grade students at Richbartville High School take algebra. If 180 ninth grade students take algebra, how many ninth grade students do *not* take algebra?
44. 069910a, P.I. A.N.5
Linda paid \$48 for a jacket that was on sale for 25% of the original price. What was the original price of the jacket?
- [A] \$72 [B] \$96 [C] \$60 [D] \$192
45. 010122a, P.I. A.N.5
Sue bought a picnic table on sale for 50% off the original price. The store charged her 10% tax and her final cost was \$22.00. What was the original price of the picnic table?

CHAPTER 3-7

PERCENTS

40. 010732a, P.I. A.N.5
A 14-gram serving of mayonnaise contains 11 grams of fat. What percent of the mayonnaise, to the *nearest tenth of a percent*, is fat?
41. 080635a, P.I. A.N.5
A recent survey shows that the average man will spend 141,288 hours sleeping, 85,725 hours working, 81,681 hours watching television, 9,945 hours commuting, 1,662 hours kissing, and 363,447 hours on other tasks during his lifetime. What percent of his life, to the *nearest tenth of a percent*, does he spend sleeping?
46. 089930a, P.I. A.N.5
A painting that regularly sells for a price of \$55 is on sale for 20% off. The sales tax on the painting is 7%. Will the final total cost of the painting differ depending on whether the salesperson deducts the discount before adding the sales tax or takes the discount after computing the sum of the original price and the sales tax on \$55?
47. 080436a, P.I. A.N.5
Walter is a waiter at the Towne Diner. He earns a daily wage of \$50, plus tips that are equal to 15% of the total cost of the dinners he serves. What was the total cost of the dinners he served if he earned \$170 on Tuesday?

48. 080225a, P.I. A.N.5

In bowling leagues, some players are awarded extra points called their "handicap." The "handicap" in Anthony's league is 80% of the difference between 200 and the bowler's average. Anthony's average is 145. What is Anthony's "handicap"?

49. 010626a, P.I. A.N.5

The Edison Lightbulb Company tests 5% of their daily production of lightbulbs. If 500 bulbs were tested on Tuesday, what was the total number of bulbs produced that day?

- [A] 100,000 [B] 10,000
[C] 1,000 [D] 25

CHAPTER 3-8

50. 060420a, P.I. A.N.5

Rashawn bought a CD that cost \$18.99 and paid \$20.51, including sales tax. What was the rate of the sales tax?

- [A] 8% [B] 5% [C] 2% [D] 3%

51. 010322a, P.I. A.N.5

The world population was 4.2 billion people in 1982. The population in 1999 reached 6 billion. Find the percent of change from 1982 to 1999.

NY LESSON 11

52. 060127a, P.I. A.N.5

A factory packs CD cases into cartons for a music company. Each carton is designed to hold 1,152 CD cases. The Quality Control Unit in the factory expects an error of less than 5% over or under the desired packing number. What is the *least* number and the *most* number of CD cases that could be packed in a carton and still be acceptable to the Quality Control Unit?

53. fall0723ia, P.I. A.M.3

The groundskeeper is replacing the turf on a football field. His measurements of the field are 130 yards by 60 yards. The actual measurements are 120 yards by 54 yards. Which expression represents the relative error in the measurement?

- [A] $\frac{(120)(54)}{(130)(60) - (120)(54)}$
[B] $\frac{(130)(60) - (120)(54)}{(120)(54)}$
[C] $\frac{(130)(60) - (120)(54)}{(130)(60)}$
[D] $\frac{(130)(60)}{(130)(60) - (120)(54)}$

[3] 4, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made.

[1] Appropriate work is shown, but two or more computational errors are made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 4, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[1] incorrect procedure.

[2] A

[3] B

[4] D

[5] C

[6] C

[7] B

[4] \$167.50, and appropriate work is shown, such as $350x + (150)(130) = 1.25(62,500)$ or trial and error with at least three trials with appropriate checks.

[3] Appropriate work is shown, but one computational error is made.

[2] Appropriate work is shown, but more than one computational error is made.

or [2] \$167.50, but only one trial with an appropriate check is shown.

[1] \$167.50, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[8] incorrect procedure.

[2] 6, and appropriate work is shown, such as solving the equation $2x + 3 = 15$ or trial and error with at least three trials and appropriate checks.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] A correct equation is written, but no further correct work is shown.

or [1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no solution is found.

or [1] 6, but no work or fewer than three trials and appropriate checks are shown.

[0] A zero response is completely incorrect, irrelevant or incoherent or is a correct response that was obtained by an obviously

[9] incorrect procedure.

[10] A

[11] A

[12] A

[13] B

[14] A

[15] C

[2] 38 and an appropriate method is shown,

such as $36.64 - (21 + 6.14) = 9.50$ and $\frac{9.50}{.25} =$

38 or an equation such as $21 + .25c + 6.14 = 36.64$.

[1] 38 and no work is shown.

or [1] An appropriate method or equation is shown, but one computational mistake is made.

or [1] The answer of \$9.50 for local calls is found but is not divided by .25.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[16] incorrect procedure.

- [2] $7x - 2$ or $x + 3x + 3x - 2$, and appropriate work is shown, such as $x + 3x + 3x - 2$ when chips = x , pretzels = $3x$, and nachos = $3x - 2$.
[1] The expressions for snacks are represented correctly, but one computational error is made in adding the expressions.
or [1] The expressions for snacks are represented incorrectly, but the expressions are added appropriately.
or [1] $7x - 2$, but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [17] [2] 21 and the student shows an appropriate solution, such as the equation $x + x + 1 + x + 2 = 63$ or trial and error.
[1] Appropriate work is shown, but an incorrect answer is found.
or [1] An incorrect equation is shown, but it is solved appropriately to find an answer, such as $x + x + 2 + x + 4 = 63$.
or [1] 21 but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [18] [19] D _____
- [20] B _____
- [21] C _____
- [22] C _____
- [23] B _____
- [24] C _____

- [2] 5 and appropriate work is shown, such as substituting \$18.11 for p and solving the equation correctly, or trial and error with at least three trials and appropriate checks.
[1] Appropriate work is shown, but one computational error is made.
or [1] Appropriate work is shown, but one conceptual error is made.
or [1] 5, but no work or fewer than three trials with appropriate checks are shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [25] [26] C _____
- [27] D _____
- [3] 7, and appropriate work is shown or an appropriate explanation is given.
[2] Appropriate work is shown, but one computational error is made.
or [2] No answer or an incorrect answer is found, but $\frac{1}{4}$ of 28 and $\frac{1}{3}$ of 21 are calculated correctly to arrive at 14.
[1] Appropriate work is shown, but more than one computational error is made.
or [1] No answer or an incorrect answer is found, but $\frac{1}{4}$ of 28 is calculated correctly to arrive at 21.
or [1] 7, but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [28] [28] incorrect procedure. _____

- [3] 7,625 and 66.7%, and appropriate work is shown.
 [2] Appropriate work is shown, but one computational error is made.
 or [2] Only the number of votes for candidate B is found correctly, but appropriate work is shown.
 [1] Appropriate work is shown, but more than one computational error is made.
 or [1] Appropriate work is shown, but one conceptual error is made.
 or [1] The percent of votes cast for candidate A is found correctly, but no further correct work is shown.
 or [1] 7,625 and 66.7%, but no work is shown.
 [0] 7,625 or 66.7%, but no work is shown.
 or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [29] _____

- [3] $\frac{48}{100}$ or any equivalent fraction or 0.48 or 48% and appropriate work is shown, such as on Monday $\frac{2}{10}$ have power, $\frac{8}{10}$ lost power; on Tuesday $\frac{1}{2}(\frac{8}{10}) = \frac{4}{10}$ have been restored, therefore $\frac{2}{10} + \frac{4}{10} = \frac{6}{10}$ have power; on Wednesday $\frac{2}{10}$ lose power, therefore $(\frac{8}{10})(\frac{6}{10}) = \frac{48}{100}$ have power.
 [2] Appropriate work is shown, but one computational error is made, leading to a fractional answer.
 or [2] One error of having or losing power is made, such as taking 20% of $\frac{4}{10}$.
 [1] Appropriate work is shown, but multiple computational errors are made.
 or [1] The correct answer is found, but no work is shown.
 [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [30] _____
- [31] D
- [32] A
- [3] Juliet and an explanation is given of how the identification was reached, such as by a narrative or table.
 [2] One error is made in the logic statements or the table, but appropriate results are found.
 [1] More than one error is made in the logic statements or the table, but appropriate work is shown.
 or [1] Juliet but no work is shown.
 [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-
- [33] _____
- [34] C

[35] D

[36] C

[37] A

[3] $\frac{2}{24}$ or an equivalent answer, and an

appropriate explanation is given or appropriate work is shown, such as a tree diagram, sample space, or permutations.

[2] Appropriate work is shown, but one computational error is made.

or [2] Appropriate work is shown, but only a numerator or a denominator is determined correctly.

or [2] $\frac{2}{24}$ or an equivalent answer, but only

work for either the numerator or the denominator is shown.

[1] The probability of the tallest or the probability of the shortest student being in the proper position is correct, such as .

or [1] Only a tree diagram, sample space, or permutations are shown.

or [1] $\frac{2}{24}$ or an equivalent answer, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[38] incorrect procedure.

[3] $\frac{7}{20}$ or an equivalent answer, and

appropriate work is shown, such as $\frac{15}{25} \cdot \frac{14}{24}$

or $\frac{{}_{15}C_2}{{}_{25}C_2}$.

[2] $\frac{15}{25} \cdot \frac{14}{24}$ or $\frac{{}_{15}C_2}{{}_{25}C_2}$ is shown, but one

computational error is made or no further work is shown.

or [2] ${}_{15}C_2$ and ${}_{25}C_2$ are computed correctly, but no further work is shown.

or [2] Appropriate work is shown, but one computational error is made.

[1] The correct probabilities are found, but they are added instead of multiplied.

or [1] Only one of the two parts of the probability is correct.

or [1] Appropriate work is shown, but more than one error is made.

or [1] $\frac{7}{20}$ or an equivalent answer, but no

work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[39] incorrect procedure.

[2] 78.6%, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or rounding error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 78.6%, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, incoherent or is a correct response that was obtained by an obviously incorrect

[40] procedure.

[2] 20.7, and appropriate work is shown, such as $\frac{141288}{683748} = \frac{x}{100}$.

[1] Appropriate work is shown, but one computational or rounding error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 20.7, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[41] incorrect procedure.

[42] A

[2] 20, and appropriate work is shown, such as $(180 \div 0.9) - 180$.

[1] A partial answer is found, such as 200 students are enrolled, but 180 is not subtracted from the answer.

or [1] An appropriate equation is shown, but one computational error is made, but 180 is subtracted.

or [1] An answer of 18 is found by subtracting 180×0.9 from 180.

or [1] 20, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[43] incorrect procedure.

[44] D

[2] \$40, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] \$40, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[45] incorrect procedure.

[3] No, it will not differ and the student shows that both methods lead to \$47.08, such as $\$55 \times .80 = \44 , $\$44 \times 1.07 = \47.08 , $\$55 \times 1.07 = \58.85 , and $\$58.85 \times .80 = \47.08 .

[2] Both ways are computed, one computational mistake is made, and an appropriate answer is found.

or [2] Both ways are computed correctly, but no comparison is found.

[1] At least one way is computed correctly, but no comparison is found.

or [1] Both ways are computed incorrectly, but an appropriate comparison is found.

[0] Both ways are computed incorrectly, and no comparison is found.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[46] obviously incorrect procedure.

[3] \$800, and appropriate work is shown, such as $0.15x + 50 = 170$ or a table of values or trial and error with at least three trials and appropriate checks.

[2] Appropriate work is shown, but one computational error is made.

or [2] The trial-and-error method is used to find the correct solution, but only two trials and appropriate checks are shown.

[1] Appropriate work is shown, but two or more computational errors are made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] Appropriate work is shown, but the \$50 per day is not included in his pay, resulting in an answer of \$1,133.33.

or [1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no solution is found.

or [1] \$800, but no work or only one trial with an appropriate check is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[47] incorrect procedure.

[2] 44, and appropriate work is shown, such as $0.8(200 - 145)$.

[1] Appropriate work is shown, but one computational or conceptual error is made.

or [1] 44, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[48] incorrect procedure.

[49] B

[50] A

[2] 42.85714286 or an equivalent answer, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or rounding error is made.

or [1] An answer of 30 is found by dividing 1.8 by 6.

or [1] An answer of 70 is found by dividing 4.2 by 6.

or [1] 42.85714286 or an equivalent answer, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[51] incorrect procedure.

[3] 1,095 and 1,209, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made.

or [2] Appropriate work is shown, but a whole-number solution is not found.

or [2] 5% of CD cases is rounded to 58, but 58 is added to or subtracted from 1,152 appropriately.

or [2] Appropriate work is shown, but only one correct solution is found.

[1] Appropriate work is shown, but more than one computational error is made.

or [1] 5% of CD cases is rounded to 58, but 58 is added to or subtracted from 1,152, but one computational error is made.

or [1] 5% of 1,152 is found, but no further work is shown.

or [1] 1,095 and 1,209, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[52] incorrect procedure.

[53] B