

Review P. 166: Proportions and Percents

1. 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?
2. 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?
3. 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%
4. 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?
5. 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] \$192 [B] \$72 [C] \$96 [D] \$60
6. 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?
7. 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?
8. 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?
9. 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"?
10. 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] 25 [B] 1,000
[C] 10,000 [D] 100,000

- [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 procedure.
- [1] _____

[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 incorrect procedure.
- [2] _____
- [3] 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 incorrect procedure.
- [4] _____

- [5] A _____

- [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 incorrect procedure.
- [6] _____

[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 obviously incorrect procedure.
- [7] _____

[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

[8] 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

[9] incorrect procedure.

[10] C
