

Lesson 3-7: Percent of Change

Part 1: Percent of Change

1. 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.

2. 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] 3% [C] 5% [D] 2%

Part 2: Percent Error

3. 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] $\frac{(130)(60)}{(130)(60) - (120)(54)}$

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

4. 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?

[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

[1] incorrect procedure.

[2] A

[3] B

[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

[4] incorrect procedure.
