PERCENTS AND PERCENT CHANGE FOR AMC 8: PRACTICE SET

ANDY JO

Contents

1. Problems 2
2. Answer Key 4

1. Problems

Beginner.

1. (2020 AMC 8, Problem #5) Three fourths of a pitcher is filled with pineapple juice. The pitcher is emptied by pouring an equal amount of juice into each of 5 cups. What percent of the total capacity of the pitcher did each cup receive?

(A) 5 **(B)** 10 **(C)** 15 **(D)** 20 **(E)** 25

2. (1989 AJHSME, Problem #21) Jack had a bag of 128 apples. He sold 25% of them to Jill. Next he sold 25% of those remaining to June. Of those apples still in his bag, he gave the shiniest one to his teacher. How many apples did Jack have then?

(A) 7 **(B)** 63 **(C)** 65 **(D)** 71 **(E)** 111

3. (2007 AMC 8, Problem #6) The average cost of a long-distance call in the USA in 1985 was 41 cents per minute, and the average cost of a long-distance call in the USA in 2005 was 7 cents per minute. Find the approximate percent decrease in the cost per minute of a long-distance call.

(A) 7 **(B)** 17 **(C)** 34 **(D)** 41 **(E)** 80

4. (2010 AMC 8, Problem #9) Ryan got 80% of the problems correct on a 25-problem test, 90% on a 40-problem test, and 70% on a 10-problem test. What percent of all the problems did Ryan answer correctly?

(A) 63 **(B)** 75 **(C)** 80 **(D)** 84 **(E)** 86

5. (2023 AMC 10B, Problem #2) Carlos went to a sports store to buy running shoes. Running shoes were on sale, with prices reduced by 20% on every pair of shoes. Carlos also knew that he had to pay a 7.5% sales tax on the discounted price. He had 43 dollars. What is the original (before discount) price of the most expensive shoes he could afford to buy?

(A) \$46 **(B)** \$50 **(C)** \$48 **(D)** \$47 **(E)** \$49

Intermediate.

6. (2000 AMC 8, Problem #10) Ara and Shea were once the same height. Since then Shea has grown 20% while Ara has grown half as many inches as Shea. Shea is now 60 inches tall. How tall, in inches, is Ara now?

(A) 48 **(B)** 51 **(C)** 52 **(D)** 54 **(E)** 55

7. (1951 AHSME, Problem #5) Mr. A owns a home worth \$10,000. He sells it to Mr. B at a 10% profit based on the worth of the house. Mr. B sells the house back to Mr. A at a 10% loss. Then:

(A) A comes out even **(B)** A makes \$1100 on the deal
(C) A makes \$1000 on the deal **(D)** A loses \$900 on the deal
(E) A loses \$1000 on the deal

8. (2010 AMC 8, Problem #15) A jar contains 5 different colors of gum drops. 30% are blue, 20% are brown, 15% are red, 10% are yellow, and the other 30 gum drops are green. If half of the blue gum drops are replaced by brown gum drops, how many gum drops will be brown?

(A) 35 **(B)** 36 **(C)** 42 **(D)** 48 **(E)** 64

9. (2008 AMC 10A, Problem #12) In a collection of red, blue, and green marbles, there are 25% more red marbles than blue marbles, and there are 60% more green marbles than red marbles. Suppose that there are r red marbles. What is the total number of marbles in the collection?

(A) $2.85r$ **(B)** $3r$ **(C)** $3.4r$ **(D)** $3.85r$ **(E)** $4.25r$

10. (2013 AMC 10A, Problem #10) A flower bouquet contains pink roses, red roses, pink carnations, and red carnations. One third of the pink flowers are roses, three fourths of the red flowers are carnations, and six tenths of the flowers are pink. What percent of the flowers are carnations?

(A) 15 **(B)** 30 **(C)** 40 **(D)** 60 **(E)** 70

Advanced.

11. (1952 AHSME, Problem #16) If the base of a rectangle is increased by 10% and the area is unchanged, then the altitude is decreased by:

(A) 9% **(B)** 10% **(C)** 11% **(D)** $11\frac{1}{9}\%$ **(E)** $9\frac{1}{11}\%$

12. (1974 AHSME, Problem #7) A town's population increased by 1,200 people, and then this new population decreased by 11%. The town now had 32 less people than it did before the 1,200 increase. What is the original population?

(A) 1,200 **(B)** 11,200 **(C)** 9,968 **(D)** 10,000 **(E)** none of these

13. (1953 AHSME, Problem #17) A man has part of \$4500 invested at 4% and the rest at 6%. If his annual return on each investment is the same, the average rate of interest which he realizes on the \$4500 is:

(A) 5% **(B)** 4.8% **(C)** 5.2% **(D)** 4.6% **(E)** none of these

14. (1955 AHSME, Problem #22) On a \$10,000 order a merchant has a choice between three successive discounts of 20%, 20%, and 10% and three successive discounts of 40%, 5%, and 5%. By choosing the better offer, he can save:

(A) nothing at all **(B)** \$440 **(C)** \$330 **(D)** \$345 **(E)** \$360

15. (2007 AMC 8, Problem #20) Before district play, the Unicorns had won 45% of their basketball games. During district play, they won six more games and lost two, to finish the season having won half their games. How many games did the Unicorns play in all?

(A) 48 **(B)** 50 **(C)** 52 **(D)** 54 **(E)** 60

2. Answer Key

Problem	Letter	Value
1	C	15
2	D	71
3	E	80
4	D	84
5	B	\$50
6	E	55
7	B	A makes \$1100 on the deal
8	C	42
9	C	$3.4r$
10	E	70
11	E	$9\frac{1}{11}\%$
12	D	10,000
13	B	4.8%
14	D	\$345
15	A	48