Algebra I Practice A.CED.A.1: Direct Variation

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NAME:_____

1. Solve: $\frac{k}{3} = \frac{4}{36}$

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

2. Solve: $\frac{x}{4} = \frac{3}{4}$

   [A] 3 [B] $1\frac{1}{12}$ [C] $\frac{5}{12}$ [D] $\frac{3}{16}$

3. Which equation does *not* have the same solution as $\frac{15}{x} = \frac{8}{45}$?

   [A] $\frac{45}{x} = \frac{8}{15}$ [B] $\frac{x}{15} = \frac{45}{8}$

   [C] $\frac{15}{8} = \frac{x}{45}$ [D] $\frac{8}{15} = \frac{45}{x}$

   [E] $\frac{15}{45} = \frac{x}{8}$

4. If 5 boxes of mints cost \$20.50, how much will 7 boxes of mints cost?

   [A] \$24.60 [B] \$36.90

   [C] \$32.80 [D] \$28.70

5. Which of the following proportions could be used to find the cost of 10 notebooks if 3 notebooks cost \$1.98?

   [A] $\frac{10}{\$1.98} = \frac{n}{3}$ [B] $\frac{n}{3} = \frac{10}{\$1.98}$

   [C] $\frac{3}{\$1.98} = \frac{10}{n}$ [D] $\frac{3}{10} = \frac{n}{\$1.98}$

6. Write a proportion to describe the following: the school store sells 6 pencils for \$0.99. At this rate, how much would 16 pencils cost? Solve your proportion.

   [A] \$2.98 [B] \$2.64

   [C] \$3.79 [D] \$1.65

7. In a mixture of gold and platinum, 500 ounces of gold were required to make 1375 ounces of the mixture. How much platinum was required to make 2255 ounces of the mixture?

   [A] 1476 ounces [B] 1230 ounces

   [C] 1435 ounces [D] 820 ounces

8. Game wardens use experiments to help determine the number of fish in a lake. Suppose 20 fish are caught, tagged, and released back into the lake. Two weeks later 60 fish are caught, of which 2 are found to have tags. Using this information, estimate the number of fish in the lake.

   [A] 600 [B] 18 [C] 78 [D] 1,200

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9. In a random sample of 500 customers at a fast food restaurant, it was determined that 190 customers ordered a salad. If the restaurant typically has 900 customers in a day, how many of these customers will probably order a salad?

   [A] 380 [B] 180 [C] 10 556 [D] 342

10. A new movie opened the other day. So far, 500,000 people have seen it. The producers of the movie need to know if the people liked it. They ask 5,000 people who saw the movie at random and 3,500 enjoyed the movie. Predict the total number of people that enjoyed the movie.

    [A] 350,000 [B] 175,000

    [C] 14,300 [D] 33,300

11. A survey indicated that 5 out of 7 doctors used brand X aspirin. If 3500 doctors were surveyed, how many used brand X?

    [A] 700 used brand X

    [B] 500 used brand X

    [C] 2500 used brand X

    [D] 1000 used brand X

12. A survey indicated that 8 out of 9 doctors used brand X aspirin. If 4500 doctors were surveyed, how many used brand X?

13. If 3 boxes of raisins cost $12.60, how much will 8 boxes of raisins cost?

14. According to Ohm's Law, the electric current *I*, in amperes, in a circuit varies directly as the voltage *V*. When 30 volts are applied, the current is 3 amperes. What is the current when 80 volts are applied?

15. Marisa is researching information about martial artists. She found that 6 out of 10 martial artists practice every day. There are 100 martial artists at a school. Predict how many practice every day. What is the sample size?

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[1] A

[2] A

[3] E

[4] D

[5] C

[6] B

[7] C

[8] A

[9] D

[10] A

[11] C

[12] 4000 used brand X

[13] $33.60

[14] 8 amperes

[15] 60. The sample size is 10.