California Basic Educational Skills Test 2023 - Quiz Questions with Answers

Mathematics (096): Computation & Problem Solving

1.

Susan went shopping and purchased a $125.00 purse, a $50.00 shirt, a $75.00 pair of shoes, and a $1,250.00 ring. How much money did Susan spend while she was shopping?

$1,500.00

$500.00

$1,250.00

$1,625.00

$1,400.00

Correct answer: $1,500.00

In order to find the amount that Susan spent shopping, you will need to add together the items she purchased.

$125.00 + $50.00 + $75.00 + $1,250.00 = $1,500.00

2.

Julie buys a car with power windows, air conditioning, and a sun roof. The car costs $20,000.00 and the options cost $500.00 each. Julie pays with a $22,000.00 check. Julie uses the following expression to calculate the amount of money she should receive back from the purchase:

$22,000.00 - ($20,000.00 + $500.00 + $500.00 + $500.00)

Which of the following expressions could Julie have also used?

$22,000.00 - $20,000.00 - 3($500.00)

3 * ($22,000.00 - $25,000.00 - $500.00)

$20,000.00 + (3 * $500.00) - $22,000.00

$500.00 - $22,000.00 + $20,000.00

3($22,000.00 - $500.00) + ($22,000.00 - $20,000.00)

Correct answer: $22,000.00 - $20,000.00 - 3($500.00)

If you solve the expression given to you, you have $22,000.00 - $21,500.00 = $500.00. Therefore, the correct expression needs to produce a value of $500.00.

The expression $22,000.00 - $20,000.00 - 3($500.00) = $500.00. This yields the same value as the given expression, so it is the correct answer.

3.

If 1/3(z) - 2 = 5, what is three times the value of z?

63

21

7

3

5

Correct answer: 63

First, add 2 to each side of the equation: 1/3(z) = 7

Now, divide each side of the equation by 1/3: z = 21

*The question asks for three times the value of z: 21 * 3 = 63*

4.

View the *supporting details* to answer the following question.

What was the percent increase of popcorn sales from the first half of 2009 to the first half of 2010?

1.75%

0.75%

1.50%

15.00%

Correct answer: 1.75%

First, you need to add the popcorn sales shown for the first half of 2009. Then, you need to add the popcorn sales shown for the first half of 2010.

Now, calculate the percent increase using the percent change formula (difference / original). The total for 2009 was $5,420.00 and the total for 2010 was $5,515.00.

The percent change fraction is $95.00/$5,420.00, which equals a 1.75% increase in popcorn sales.

5.

If 2y - 8 = 8, what is half of the value of y?

4

16

8

2

12

Correct answer: 4

First, add 8 to each side of the equation: 2y = 16

Now, divide each side of the equation by 2: y = 8

The question asks for half of the value of y: 8 / 2 = 4

6.

What is the sum of 10 1/3, -9 2/9, and 5 2/3?

6 7/9

7 2/9

25 2/9

24 7/9

25 7/9

Correct answer: 6 7/9

Add the three fractional amounts. In order to get the same denominator for each fraction, change 1/3 to 3/9 and 2/3 to 6/9.

Then, add the numbers, remembering that 9 2/9 is negative. The result is 6 7/9.

10 3/9 - 9 2/9 + 5 6/9 = 6 7/9

7.

The pharmacy filled 25 brand name prescriptions, 35 generic prescriptions, and some OTC prescriptions. There is a 1 to 3 ratio of generic prescriptions to OTC prescriptions. Which of the following numbers in the problem are needed to find the total number of OTC prescriptions that were filled?

35, 1, and 3 only

25, 1, and 3 only

35, 25, 1, and 3

1 and 3 only

35, 25, and 3 only

Correct answer: 35, 1, and 3 only

In order to find the actual number of OTC prescriptions, you need the initial ratio, plus one actual number. The initial ratio of generic to OTC is 1 to 3, and the actual number of generic is 35.

You do not need the fact that there were brand name prescriptions filled. This piece of information does nothing to help you solve the ratio box involving generic and OTC.

8.

Karen sells hamburgers for $2.50 and hot dogs for $1.00. In the month of July, Karen sold 300 hamburgers and 300 hot dogs. Karen uses the following expression to calculate July's revenue:

($2.50 * 300) + ($1.00 * 300)

Which of the following expressions could Karen have also used?

300 * ($2.50 + $1.00)

(600 * $2.50) + $1.00

600 * $3.50

(300 + 300) * ($2.50 + $1.00)

600 / ($2.50 + $1.00)

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*Correct answer: 300 * ($2.50 + $1.00)*

If you solve the expression given to you, you have $750.00 + $300.00 = $1,050.00. Therefore, the correct answer needs to produce a value of $1,050.00.

*The expression 300 * ($2.50 + $1.00) = $1,050.00. This yields the same value as the given expression, so it is the correct answer.*

9.

Each of the 10 meeting attendees is asked to select one and only one seat. There are 5 seats available in the front row and 5 seats available in the second row. As of 1:05 p.m., 8 of the seats had been selected.

Which of the following facts can be determined from the information given above?

The total number of seats that have not yet been selected

The number of individuals that have chosen a seat in the front row

The number of males who selected a seat in the back row

The total number of seats that were selected by 1:00 p.m.

The ratio of males to females asked to select a seat

Correct answer: The total number of seats that have not yet been selected

You will want to eliminate the answer choices you know are wrong and focus on the information you are given. You know that 8 of the seats have been chosen, and that there are a total of 10 chairs available and 10 individuals selecting a seat. Therefore, you can determine how many seats have not yet been selected.

10.

Dividing a number by 10 is the same as multiplying that number by:

- **1/10**
- 1/5
- 5
- 10
- 0.5

Correct answer: 1/10

If you select the number 20 and divide it by 10, the result is 2.

If you multiply the number 20 by 1/10, the result is 2.

1/10 means 1 divided by 10.

11.

Dividing a number by 20 is the same as multiplying that number by:

- **1/20**
- 1/10
- 1/2
- 20
- 0.5

Correct answer: 1/20

If you select the number 20 and divide it by 20, the result is 1.

If you multiply the number 20 by 1/20, the result is 1.

1/20 means 1 divided by 20.

12.

Multiplying a number by 1/8 is the same as dividing that number by:

8

16

1/16

0.125

0.16

Correct answer: 8

If you select the number 16 and multiply it by 1/8, the result is 2.

If you divide the number 16 by 8, the result is 2.

1/8 means 1 divided by 8.

13.

View the *supporting details* to answer the following question.

Which type of beverage saw the **largest** percent increase in sales from 2011 to 2012?

Diet Soda

Grape

Ginger Ale

Orange

Correct answer: Diet Soda

First, eliminate any answer choice that does not increase. Grape did not see an increase.

Next, calculate the percent increase using the percent change formula (difference / original). The total for Diet Soda in 2011 was $30,000 and in 2012 was $34,000.

The percent change fraction is $4,000/$30,000, which equals the largest percent increase at 13.33%.

14.

If 6z = 9 + 3z, what is the value of 6z?

18

15

12

21

3

Correct answer: 18

First, subtract 3z from each side of the equation: 3z = 9

Now, divide each side of the equation by 3: z = 3

*The question asks you to find the value of 6z: 6 * 3 = 18*

15.

If 7x - 14 = 14, what is three times the value of x?

- **12**
- 4
- 6
- 8
- 10

Correct answer: 12

The question asks for three times the value of the variable x. First, solve for x:

7x - 14 = 14

7x = 28

x = 4

*Now, multiply to find three times the value of x: 4 * 3 = 12.*

16.

What is the difference between 1.6 and 0.154?

1.446

0.06

1.584

1.754

1.06

Correct answer: 1.446

When subtracting decimals, be sure to align the decimals vertically:

1.600
- 0.154
= 1.446

17.

Brandy feeds her horse 10 cups of grain every day. She gives the horse 30% of the grain at 7 a.m., 30% at 1 p.m., and the remainder of the grain at 8 p.m. How much grain does Brandy's horse receive at 8 p.m.?

4 cups

2 cups

6 cups

8 cups

5 cups

Correct answer: 4 cups

First, you need to determine what percentage of grain the horse receives at 8 p.m.: 100% - 30% - 30% = 40%.

Then, you need to calculate the percentage: 40/100 x 10 = 4.

18.

If 4n + m - x = t - z, what is the value of t when n = 1/2, m = 3, x = 1, and z = 2?

6

2

4

10

12

Correct answer: 6

Here is the equation you are given: 4n + m - x = t - z. Now, substitute the values you are given for n, m, x, and z:

4(1/2) + 3 - 1 = t - 2

2 + 3 - 1 = t - 2

4 = t - 2

6 = t

19.

If -9 + 3x > 12, which of the following must be **true**?

x > 7

x < 7

x > 1

x > 1/7

x > 3

Correct answer: x > 7

First, simplify the inequality to get 3x > 21.

Then, divide by 3 to get that x > 7.

20.

Sandie collects stamps. Before she attended a recent stamp auction, she had 395 different stamps. At the auction, she won 8 times her collection. How many stamps does Sandie now own?

3,555 stamps

2,765 stamps

3,160 stamps

3,260 stamps

3,365 stamps

Correct answer: 3,555 stamps

*Sandie had 395 stamps and won 8 times that amount. Multiply to get how many Sandie won: 395 * 8 = 3,160.*

Add this amount to her original amount to find the answer: 3,160 + 395 = 3,555.

21.

The restaurant served 26 chicken dinners, 32 steak dinners, 15 lobster dinners, and some shrimp dinners. There is a 3 to 5 ratio of chicken dinners to shrimp dinners. Which of the following numbers in the problem are needed to find the total number of shrimp dinners that the restaurant served?

26, 3, and 5 only

32, 3, and 5 only

15, 3, and 5 only

26, 32, 15, 3, and 5

26, 15, and 5 only

Correct answer: 26, 3, and 5 only

In order to find the actual number of shrimp dinners, you need the initial ratio, plus one actual number. The initial ratio of chicken to shrimp is 3 to 5, and the actual number of chicken dinners is 26.

You do not need the fact that the restaurant served 32 steak dinners or 15 lobster dinners. These pieces of information do nothing to help you solve the ratio box involving chicken and shrimp dinners.

22.

Claire walked 3 miles on Wednesday, 5 miles on Friday, and 2 miles on Saturday. How many more miles did Claire walk on Friday than on Saturday?

3

2

1

4

5

Correct answer: 3

To find the correct answer, subtract the two values:

5 - 2 = 3

23.

Debbie ordered a pizza with sausage, mushrooms, and onion. A one-topping pizza costs $8.00, and additional toppings are $1.00 each. Debbie pays with a twenty-dollar bill. Debbie uses the following expression to calculate the amount of money she should receive back from the purchase:

$20.00 - ($8.00 + $1.00 + $1.00)

Which of the following expressions could Debbie have also used?

$12.00 - 2 * $1.00

2 * ($20.00 - $8.00 - $1.00)

$8.00 + (2 * $1.00) - $20.00

$1.00 - $20.00 + $8.00

2($20.00 - $1.00) + ($20.00 - $8.00)

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*Correct answer: $12.00 - 2 * $1.00*

If you solve the expression given to you, you have $20.00 - $10.00 = $10.00. Therefore, the correct answer needs to produce a value of $10.00.

*The expression $12.00 - 2 * $1.00 = $10.00. This yields the same value as the given expression, so it is the correct answer.*

24.

View the *supporting details* to answer the following question.

Which of the following types of beverages saw the **smallest** percent increase in sales from 2011 to 2012?

Root Beer

Soda

Ginger Ale

Orange

Correct answer: Root Beer

Calculate the percent increase using the percent change formula (difference / original). The total for Root Beer in 2011 is $25,000 and in 2012 is $25,500.

The percent change fraction is $500/$25,000, thus giving you the smallest percent increase at 2.0%.

25.

Donna, Debbie, and Sally are at the Café Court in the mall. They consumed a total of 9 tacos, 3 brownies, and 3 iced teas. Donna ate more tacos than Sally. Debbie ate 2 tacos and 1 brownie. Brownies cost $1.00 more than tacos, but less than iced tea.

Which of the following statements can be determined from the above information?

- **Who ate the most tacos**
- How many tacos Sally ate
- The total cost of all the tacos
- The cost of iced tea

Correct answer: Who ate the most tacos

This can be determined from the information provided. You know that they ate 9 tacos. Debbie ate two tacos, which means that 7 tacos were consumed by Donna and Sally. The problem states that Donna ate more tacos than Sally. While you do not know exactly how many tacos Donna ate, you know that Donna had the most, because Donna would have either consumed 4, 5, or 6 tacos, to have consumed more than Sally.

26.

If 11 - 5z < -4, which of the following must be **true**?

z > 3

z > 1/3

z > -3

z < 3

z < -3

Correct answer: z > 3

Subtract 11 from both sides of the equation: -5z < -15

Divide both sides of the equation by -5: z > 3

Remember that the sign reverses direction when multiplying or dividing by a negative number.

27.

The winery sold 81 cases of wine this week. If there were twice as many red cases that sold, how many white cases were sold this week?

27

54

20

61

32

Correct answer: 27

Backsolving is the easiest way to solve this problem. To backsolve, choose the answer choice that is the middle option to start with, and work toward the correct answer.

32 is the middle option in the answer bank. If there were 32 white cases, then 64 red cases sold this week. This answer proves to be too high, as you only want 81 cases, not 96. You will need to choose another answer choice that is lower than 32.

The answer choice that is lower than 32 is 27. If there were 27 white cases, then 54 red cases sold this week. This gives you the total of 81 cases that you were looking for.

28.

View the *supporting details* to answer the following question.

What percent of the total votes did blue jelly beans receive?

4%

12%

8%

7%

2%

Correct answer: 4%

You would need to add up the percentages for all other colors, and subtract the total from 100%.

12% + 6% + 20% + 55% + 3% = 96%

100% - 96% = 4%

29.

What does n equal if -4n = 2n - 12?

2

6

-2

3

-1

Correct answer: 2

First, subtract 2n from each side of the equation: -6n = -12

Now, divide each side of the equation by -6: n = 2

30.

The chef used 2 tablespoons of salt, 4 tablespoons of baking soda, and some pepper. There is a 1 to 3 ratio of salt to pepper. Which of the following numbers in the problem are needed to find the total number of tablespoons of pepper that the chef will use?

2, 1, and 3 only

4, 1, and 3 only

4, 2, 1, and 3

1 and 3 only

2 and 4 only

Correct answer: 2, 1, and 3 only

In order to find the actual number of tablespoons of pepper, you need the initial ratio, plus one actual number. The initial ratio of salt to pepper is 1 to 3, and the actual number of tablespoons of salt is 2.

You do not need the fact that the chef used 4 tablespoons of baking soda. This piece of information does nothing to help you solve the ratio box involving salt and pepper.

31.

If 5 + 2p = -1, what is the value of 1/3(p)?

-1

-3

1

3

-6

Correct answer: -1

First, subtract 5 from each side of the equation: 2p = -6

Now, divide each side of the equation by 2: p = -3

*The question asks you to find the value of 1/3(p): 1/3 * -3 = -1*

32.

A vehicle seats 7 passengers. If there are 91 people, how many vehicles are needed to transport everyone?

13 vehicles

12 vehicles

14 vehicles

15 vehicles

16 vehicles

Correct answer: 13 vehicles

To find the number of vehicles needed, divide 91 by 7. The answer comes out to 13.

33.

Roger wanted to purchase a small utility tractor. The tractor cost $12,500.00. The blade for the tractor cost $800.00. The bucket for the tractor cost $1,500.00. The brush guard for the tractor cost $900.00.

If Roger wanted to purchase the tractor with the blade and the bucket, how much money would Roger need?

$14,800.00

$14,000.00

$14,200.00

$15,700.00

$15,000.00

Correct answer: $14,800.00

In order to find the amount of money Roger would need, add together the amounts for the items he wishes to buy:

$12,500.00 + $800.00 + $1,500.00 = $14,800.00

34.

3 more than 8 times a number is 27. What is the number?

- **3**
- 4
- 6
- 2
- 9

Correct answer: 3

In algebraic form, the equation is 3 + 8n = 27.

To solve the equation, subtract 3 from both sides of the equation, giving you 8n = 24.

Divide both sides by 8 to get n = 3.

35.

Bryan volunteers 90 minutes a month at the local fire department. Bryan's wife Justine volunteers 60 minutes a month. Together, how many minutes do Bryan and Justine volunteer each year?

1,800 minutes

1,080 minutes

720 minutes

1,600 minutes

2,050 minutes

Correct answer: 1,800 minutes

Start by adding the number of minutes that Bryan and Justine both volunteer: 90 + 60 = 150.

*Now, multiply 150 by 12 months to get the annual number of minutes they volunteer: 150 * 12 = 1,800.*

36.

What is the sum of 23 1/2, 11 1/8, and 26 1/4?

60 7/8

60 5/8

34 1/2

45 1/4

60 3/8

Correct answer: 60 7/8

Add the three fractional amounts together. In order to get the same denominator for each fraction, change 1/2 to 4/8, and 1/4 to 2/8.

Then, add the numbers. The result is 60 7/8.

23 4/8 + 11 1/8 + 26 2/8 = 60 7/8

37.

Sam's flight was 2,511 miles. Rod's flight was 1,918 miles. Ethan's flight was 1,876 miles. If Sam, Rod, and Ethan are on the same rewards program account, and they need 10,000 combined miles for a free flight, how many more miles do they need to get a free flight?

3,695

7,489

8,082

8,124

23,695

Correct answer: 3,695

To find the correct answer, subtract Sam's, Rod's, and Ethan's flight miles from 10,000.

10,000 - 2,511 - 1,918 - 1,876 = 3,695

38.

Every 30 minutes, 500 Americans are involved in vehicular accidents. How many vehicular accidents occur in 600 minutes?

10,000

18,000

5,000

9,000

12,000

Correct answer: 10,000

In order to find out how many vehicle accidents occur over a 600-minute period, you need to start by dividing: 600/30 = 20.

*Now, you need to multiply: 20 * 500 = 10,000.*

39.

Carrie types 55 words a minute. Jodie can type 45 words a minute. If Carrie and Jodie work together, how many minutes would it take them to type 25,000 words?

250 minutes

228 minutes

325 minutes

278 minutes

Correct answer: 250 minutes

Together, Carrie and Jodie can type 100 words a minute. Divide 25,000 words by 100 words a minute, and you get 250 minutes.

40.

Each of the 50 judges is asked to select one and only one robe to wear. There are 25 grey robes available and 25 black robes available. At this instant, 35 of the total robes have been selected.

Which of the following facts can be determined from the information given above?

The total number of judges in the group that have not yet chosen a robe

The number of judges that selected a grey robe

The number of male judges who selected a black robe

The total number of judges in the United States

The ratio of male judges to female judges who chose a black robe

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Correct answer: The total number of judges in the group that have not yet chosen a robe

You will want to eliminate the answer choices you know are wrong and focus on the information you are given. You know that 35 of the robes have been selected, and that there are a total of 50 judges who are selecting a robe. Therefore, you can determine the number of judges who have not yet chosen a robe.

41.

Jason can build 5 storage barns a week. Peter can build 7 storage barns a week. Jason and Peter receive an order for 180 storage barns. If they work together, how many weeks will it take Jason and Peter to complete the order?

15 weeks

12 weeks

36 weeks

26 weeks

24 weeks

Correct answer: 15 weeks

Together, Jason and Peter can build 12 storage barns a week. Divide 180 storage barns by 12 storage barns a week, and you get 15 weeks.

42.

Two babies were born on Tuesday. The first baby weighed 6 1/4 pounds, and the second baby weighed 7 3/8 pounds. What was the total weight of the two babies born on Tuesday?

13 5/8 pounds

13 1/8 pounds

42 1/3 pounds

42 5/8 pounds

15 1/4 pounds

Correct answer: 13 5/8 pounds

Add the two fractional amounts together. In order to get the same denominator for each fraction, change 1/4 to 2/8.

Then, add the numbers. The result is 13 5/8 pounds.

6 2/8 + 7 3/8 = 13 5/8

43.

View the *supporting details* to answer the following question.

Which month saw the **largest** percent increase in popcorn sales from 2009 to 2010?

January

May

June

February

Correct answer: January

First, eliminate any answer choice that does not increase. May and June did not see an increase.

Next, calculate the percent increases using the percent change formula (difference / original).

The total in January 2009 was $900.00 and the total in January 2010 was $950.00.

The percent change fraction is $50/$900.00, which equals the largest percent increase at 5.6%.

44.

Ruth bakes 25 pies every day. How many pies does Ruth bake in 15 days?

375

40

125

250

425

Correct answer: 375

In order to find out how many pies were baked over the 15-day period, you need to multiply:

*25 * 15 = 375.*

45.

Dave and Bryan rode a total of 235 miles today. If Dave rode 37 more miles than Bryan, how many miles did Bryan ride?

99

198

136

37

76

Correct answer: 99

Backsolving is the easiest way to solve this problem. To backsolve, choose the answer choice that is the middle option to start with, and work toward the correct answer.

99 is the middle option in the answer bank. If Dave and Bryan rode a total of 235 miles and Bryan rode 99 miles, that would leave Dave riding 136 of the miles. Dave's 136 miles less Bryan's 99 miles equals 37 miles. Thus, you can determine Dave rode 37 more miles than Bryan.

You can also solve this problem by setting up the algebraic equation:

$(37 + x) + x = 235$

$37 + 2x = 235$

$2x = 198$

$x = 99$

46.

What is the difference between 25.067 and 11.129?

13.938

14.022

14.042

13.928

13.838

Correct answer: 13.938

When subtracting decimals, be sure to align the decimals vertically:

25.067
- 11.129
= 13.938

47.

What does s equal if (6s - 2) / 2 = 8?

3

6

4

-4

2

Correct answer: 3

First, divide 6s by 2 and -2 by 2: 3s - 1 = 8

Then, add 1 to each side of the equation: 3s = 9

Now, divide each side of the equation by 3: s = 3

48.

Brent measured the board at 8 3/4 feet. Shawn measured the same board at 6 1/2 feet. What is the difference between Brent's measurement and Shawn's measurement?

2 1/4 feet

3 feet

2 1/3 feet

1 2/3 feet

Correct answer: 2 1/4 feet

To find the difference, convert all mixed numbers to improper fractions.

8 3/4 = 35/4

6 1/2 = 13/2

Next, find a common denominator and subtract the numbers.

35/4 - (13/2)(2/2)

35/4 - 26/4 = 9/4 = 2 1/4 feet

8 3/4 - 6 2/4 = 2 1/4

You could also use the Bowtie method, where you first need to convert the mixed numbers into improper fractions:

8 3/4 = 35/4, and 6 1/2 = 13/2

Then, 35/4 - 13/2 = (70 - 52) / 8 = 18/8 = 9/4 = 2 1/4.

49.

Alisha is selling candy bars for the school fundraiser. She starts with a box of 30 candy bars and sells 4 on Monday, 5 on Tuesday, and 8 on Wednesday. How many candy bars does Alisha still need to sell?

13

15

21

17

9

Correct answer: 13

You need to subtract the total number of candy bars that Alisha has sold from the initial quantity:

30 - 4 - 5 - 8 = 13

50.

Duchess, the female Labrador, had a litter of 11 puppies. When the puppies turned 6 weeks old, 2 of the puppies were adopted; at 8 weeks old, 2 more puppies were adopted; and at 10 weeks old, 4 puppies were adopted.

How many puppies does Duchess still have?

- **3 puppies**
- 2 puppies
- 4 puppies
- 5 puppies
- 1 puppy

Correct answer: 3 puppies

You will need to subtract the total number of puppies that were adopted from the initial number of puppies.

11 - 2 - 2 - 4 = 3

51.

65 less than 2 times a number is 53. What is the number?

- **59**
- -6
- 28
- 89
- 236

Correct answer: 59

The algebraic equation is 2x - 65 = 53.

To solve the equation, add 65 to both sides of the equation, giving you 2x = 118. Then, divide both sides by 2 to get x = 59.

52.

If t - 1/2(z) + n = 3m - d, what is the value of m when t = 5, z = 8, n = 3, and d = 8?

4

2

1 1/2

-2

8

Correct answer: 4

Here is the equation you are given: t - 1/2(z) + n = 3m - d

Now, substitute the values you are given for t, z, n and d:

5 - 1/2(8) + 3 = 3m - 8

8 - 4 = 3m - 8

4 = 3m - 8

12 = 3m

4 = m

53.

If 3x - 10 = 11, what is four times the value of x?

28

7

21

63

3

Correct answer: 28

First, add 10 to each side of the equation: 3x = 21

Now, divide each side of the equation by 3: x = 7

*The question asks for four times the value of x: 7 * 4 = 28*

54.

3/5 is how many times greater than 1/5?

- **3**
- 2
- 2.5
- 3.5
- 4

Correct answer: 3

The mathematical expression would be:

*3/5 ÷ 1/5 = 3/5 * 5/1 = 15/5 = 3*

55.

If 2n + 16 > 20, which of the following must be **true**?

n > 2

n > 4

n < 2

n > 8

n < 4

Correct answer: n > 2

Subtract 16 from both sides of the equation: 2n > 4

Divide both sides of the equation by 2: n > 2

56.

Ken needs to increase his weekly pay to $248.00. Ken currently works 20 hours a week and earns $7.75 an hour. How many additional hours would Ken need to work in order to meet his goal of $248.00 per week?

12

10

8

14

16

Correct answer: 12

First, you need to calculate the current amount of money that Ken earns per week. By multiplying 20 by $7.75, you find that Ken earns $155.00 per week.

To get to $248.00 per week, Ken needs to increase his weekly pay by $93.00. Divide this total by his rate of $7.75 per hour, and you get the answer: 12 more hours.

57.

What is the difference between 15.9 and 6.4816?

9.4184

9.5

9.5215

9.5184

9.3816

Correct answer: 9.4184

When subtracting decimals, be sure to align the decimals vertically:

15.9000
- 6.4816
= 9.4184

58.

A car salesman sold 33 cars on Saturday. If the salesman sold twice as many convertibles as he did sedans that day, how many sedans did he sell on Saturday?

11

22

18

9

13

Correct answer: 11

Backsolving is the easiest way to solve this problem. To backsolve, choose the answer choice that is the middle option to start with, and work toward the correct answer.

13 is the middle option in the answer bank. If there were 13 sedans sold, then 26 convertibles were sold. This answer choice proves to be too high, as you only want to sell 33 cars, not 39. You will need to choose another answer choice that is lower than 13.

The answer choice that is lower than 13 is 11. If there were 11 sedans sold, then 22 convertibles were sold. This gives you the total of 33 that you are looking for.

59.

Betty and Kris spent a total of $360 shopping today. If Betty spent $80 more than Kris did, how many dollars did Kris spend?

$140

$220

$80

$100

Correct answer: $140

Backsolving is the easiest way to solve this problem. To backsolve, choose the answer choice that is the middle option to start with, and work toward the correct answer.

$120 is the middle option in the answer bank. If Betty and Kris spent a total of $360 and Kris spent $120, that would leave Betty spending $240 dollars. Betty's $240 less Kris's $120 equals $120. This answer choice proves to be too low, as you want Betty to spend only $80 more than Kris, so you will need to choose the answer choice that is higher than $120.

The answer choice that is higher than $120 is $140. If Betty and Kris spent a total of $360 and Kris spent $140, that would leave Betty spending $220 dollars. Betty's $220 less Kris's $140 equals $80. Thus, you can determine Betty spent $80 more than Kris did.

You can also solve this problem setting up the algebraic equation:

(x + $80) + x = $360

$80 + 2x = $360

2x = $280

x = $140

60.

Clyde and James both own fast-food franchises. There are a total of 1,200 franchises between them. If James owns 65% of the fast-food franchises, how many franchises does Clyde own?

420

480

500

600

780

Correct answer: 420

You know that James owns 65% of the franchises, so that would leave Clyde owning 35% of the franchises.

To get the total number of franchises that Clyde owns, multiply 0.35 by 1,200, to get 420.

61.

3/5 is how many times greater than 1/2?

1.2

2

1.5

0.8

2.2

Correct answer: 1.2

The mathematical expression would be:

*3/5 ÷ 1/2 = 3/5 * 2/1 = 6/5 = 1.2*

62.

1/5 is how many times greater than 1/100?

20

10

15

5

Correct answer: 20

The mathematical expression would be:

*1/5 ÷ 1/100 = 1/5 * 100/1 = 100/5 = 20*

63.

The hot dog stand sells 1,250 hot dogs every week. How many hot dogs does the hot dog stand sell in 52 weeks?

65,000

60,000

55,000

62,500

57,250

Correct answer: 65,000

In order to find out how many hot dogs were sold over the 52-week period, you need to multiply.

*1,250 * 52 = 65,000*

64.

If 4d + 4 < 40, which of the following must be **true**?

d < 9

d < -9

d > 4

d > 36

d < 8

Correct answer: d < 9

Subtract 4 from both sides of the equation: 4d < 36

Divide both sides of the equation by 4: d < 9

65.

If 3n - 3 > 33, which of the following must be **true**?

n > 12

n > 36

n > 24

n > 8

n < 8

Correct answer: n > 12

Add 3 to both sides of the equation: 3n > 36

Divide both sides of the equation by 3: n > 12

66.

If -8z + 6 < 46, which of the following must be **true**?

z > -5

z > 5

z < -5

z < 1/5

z < -8

Correct answer: z > -5

Subtract 6 from both sides of the equation: -8z < 40

Divide both sides of the equation by -8: z > -5

Remember that the sign reverses direction when multiplying or dividing by a negative number.

67.

If 10 + 8n = 42, what is the value of 9n?

36

4

9

32

Correct answer: 36

First, subtract 10 from each side of the equation: 8n = 32

Now, divide each side of the equation by 8: n = 4

*The question asks you to find the value of 9n: 9 * 4 = 36*

68.

View the *supporting details* to answer the following question.

What is the percent increase in sales from 2008 to 2009 for the Crossover?

8.00%

6.00%

7.50%

8.50%

Correct answer: 8.00%

Calculate the percent increase using the percent change formula (difference / original). The total for the Crossover in 2008 is $800 and in 2009 is $864.

The percent change fraction is $64/$800, thus giving you an 8.00% increase from 2008 to 2009.

69.

If z + 3s - h = p(n), what is the value of p when z = 9, s = 1/3, h = 2, and n = 1/2?

16

12

32

8

4

Correct answer: 16

Here is the equation you are given: z + 3s - h = p(n)

Now, substitute the values you are given for z, s, h, and n: 9 + 3(1/3) - 2 = p(1/2)

9 + 1 - 2 = 1/2p

8 = 1/2p

16 = p

70.

Last month Kristina weighed 186 3/4 pounds. This month she weighs 179 1/2 pounds. What is the difference between what she weighed this month and what she weighed last month?

7 1/4

6 3/4

6 1/2

6 1/4

7 1/2

Correct answer: 7 1/4

To find the difference, convert all fractions to give them all the same denominator:

186 3/4 - 179 2/4 = 7 1/4

If you use the Bowtie method, you will first need to convert the mixed numbers to improper fractions. 186 3/4 = 747/4, and 179 1/2 = 359/2.

Then, 747/4 - 359/2 = (1494 - 1436)/8 = 58/8 = 29/4 = 7 1/4.

71.

Tyler ships 25 computers every week. How many computers does Tyler ship in 20 weeks?

500

250

400

550

650

Correct answer: 500

In order to find out how many computers were shipped over the 20-week period, you need to multiply.

25 x 20 = 500

72.

Sam's flight was 2,511 miles. Rod's flight was 1,918 miles. Ethan's flight was 1,876 miles. How many more miles did Sam fly than Ethan did?

635

42

593

535

493

Correct answer: 635

To find the correct answer, subtract the two values:

2,511 - 1,876 = 635

73.

If 7 + 5y = 52, what is one-third the value of y?

3

45

9

5

27

Correct answer: 3

First, subtract 7 from each side of the equation: 5y = 45

Now, divide each side of the equation by 5: y = 9

*The question asks for one-third the value of y: 9 * 1/3 = 3*

74.

Pete and Ian checked a total of 490 prescriptions today. If Pete checked 46 more prescriptions than Ian did, how many prescriptions did Ian check?

222

268

46

199

291

Correct answer: 222

Backsolving is the easiest way to solve this problem. To backsolve, choose the answer choice that is the middle option to start with, and work toward the correct answer.

222 is the middle option in the answer bank. If Pete and Ian checked a total of 490 prescriptions and Ian checked 222 prescriptions, that would leave Pete checking 268 prescriptions. Pete's 268 prescriptions less Ian's 222 prescriptions equals 46 prescriptions. Thus, you can determine Pete checked 46 more prescriptions than Ian did.

You can also solve this problem by setting up the algebraic equation:

$(x + 46) + x = 490$

$46 + 2x = 490$

$2x = 444$

$x = 222$

75.

Wayne shipped 476 phones over a 14-day period. On **average**, how many phones did Wayne ship per day?

34

19

26

68

119

Correct answer: 34

In order to find out the average number of phones that were shipped each day, you will need to divide:

476 / 14 = 34

76.

If 4 - 3p < 25, which of the following must be **true**?

p > -7

p < -7

p < 7

p < 1/7

p > -1/7

Correct answer: p > -7

Subtract 4 from both sides of the equation: -3p < 21

Divide both sides of the equation by -3: p > -7

Remember that the sign reverses direction when multiplying or dividing by a negative number.

77.

If 4x - 2 = 22, then what does x equal?

6

3

4

5

8

Correct answer: 6

First, add 2 to each side of the equation: 4x = 24.

Now, divide each side of the equation by 4: x = 6.

78.

Donna, Debbie, and Sally are at the Café Court in the mall. They consumed a total of 9 tacos, 3 brownies, and 3 iced teas. Donna ate more tacos than Sally. Debbie ate 2 tacos and 1 brownie. Brownies cost $1.00 more than tacos, but less than iced tea.

If Donna ate 4 tacos, how many tacos did Sally eat?

- **3**
- 5
- 4
- 2
- 1

Correct answer: 3

You know that 9 tacos were purchased. Debbie ate 2 tacos, and Donna ate 4 tacos. You will need to subtract the tacos Debbie and Donna ate from the number purchased:

9 - 2 - 4 = 3

79.

Bonnie needs to increase her monthly sales to $5,500.00. Bonnie currently sells 180 phone cases a month at $25.00 per case. How many additional phone cases would Bonnie need to sell in order to meet her goal of $5,500.00 per month?

40

35

30

25

45

Correct answer: 40

First, you need to calculate the current amount of sales that Bonnie makes per month. By multiplying 180 by $25.00, you find that Bonnie makes $4,500.00 per month.

To get to $5,500.00 per month, Bonnie needs to increase her monthly sales by $1,000.00. Divide this total by her phone case price of $25.00, and you get the answer: 40 more phone cases.

80.

Two men joined the military. The first man's height was 72 1/2 inches, and the second man's height was 68 1/6 inches. What was the total height of the two men who joined the military?

140 2/3 inches

140 1/3 inches

72 2/3 inches

68 1/2 inches

138 2/3 inches

Correct answer: 140 2/3 inches

Add the two fractional amounts together. In order to get the same denominator for each fraction, change 1/2 to 3/6.

Then, add the numbers. The result is 140 2/3 inches.

72 3/6 + 68 1/6 = 140 4/6

140 4/6 = 140 2/3

81.

Kara earns $1.00 for every 100 words that she writes. She just received a job offer to write 20 articles for a local newspaper, and each article is required to be 500 words long. What will Kara's earnings be after she completes all 20 articles?

$100.00

$20.00

$500.00

$1000.00

$10,000.00

Correct answer: $100.00

*First, you need to determine how much each article will pay: 500 / 100 * $1.00 = $5.00.*

*Then, you need to multiply the number of articles by the article price: 20 * $5.00 = $100.00.*

82.

The club sold sixty rose bushes for the fundraiser. If there were three times as many pink rose bushes that sold, how many yellow rose bushes were sold for the fundraiser?

15

45

20

30

25

Correct answer: 15

Backsolving is the easiest way to solve this problem. To backsolve, choose the answer choice that is the middle option to start with, and work toward the correct answer.

25 is the middle option in the answer bank. If there were 25 yellow rose bushes that sold, then 75 pink rose bushes were sold. This answer choice proves to be too high, as you only want to sell 60 rose bushes, not 100. You will need to choose another answer choice that is lower than 25.

The answer choice that is under 25 is 20. If there were 20 yellow rose bushes that sold, then 60 pink rose bushes sold. This answer choice proves to be too high, as you only want to sell 60 rose bushes, not 80. You will need to choose another answer choice that is lower than 20.

The answer choice that is lower than 20 is 15. If there were 15 yellow rose bushes that sold, then 45 pink rose bushes were sold. This gives you the total of 60 rose bushes that you are looking for.

83.

The pharmacy fills 565 prescriptions a day. How many prescriptions does the pharmacy fill in 30 days?

16,950

11,300

14,125

19,775

22,600

Correct answer: 16,950

In order to find out how many prescriptions were filled over the 30-day period, you need to multiply.

*565 * 30 = 16,950*

84.

Sharon is required to deposit 30 percent of her earnings into her checking account. Sharon earned $600 on Friday. How much of the $600 does Sharon need to deposit into her checking account?

$180

$200

$300

$220

$420

Correct answer: $180

*You would need to calculate the percentage. The percentage expression to use is 30/100 * $600, which would give you 0.30 * $600 = $180.*

85.

3/4 is how many times greater than 1/2?

- **1.5**
- 1.25
- 1.75
- 2
- 2.25

Correct answer: 1.5

The mathematical expression would be:

*3/4 ÷ 1/2 = 3/4 * 2/1 = 6/4 = 1.5*

86.

Every 10 minutes, 200 gallons of water are purified. How many gallons of water are purified in 60 minutes?

1,200

600

900

800

1,000

Correct answer: 1,200

In order to find out how many gallons of water are purified over a 60-minute period, you need to start by dividing: 60 / 10 = 6.

*Now, you need to multiply: 6 * 200 = 1,200.*

87.

There are 50 guests at the party and each guest gets to pick one and only one dinner plate. There are 18 beef dinner plates, 18 chicken dinner plates, and 14 turkey dinner plates. At this very instant, 32 of the total dinner plates have been chosen.

Which of the following facts can be determined from the information above?

The number of guests in the group that have not yet chosen a dinner plate

The number of guests that have chosen a turkey dinner plate

The number of female guests who selected a chicken dinner plate

The total number of guests who were invited to the party

The ratio of males to females at the party

Correct answer: The number of guests in the group that have not yet chosen a dinner plate

You will want to eliminate the answer choices you know are wrong and focus on the information you are given. You know that 32 of the dinner plates have been chosen, and that there are a total of 50 guests who are at the party picking dinner plates. Therefore, you can determine how many guests have not yet chosen a dinner plate.

88.

Each of the 25 children in a group gets to pick one and only one bumper car. There are 8 pink bumper cars, 9 blue bumper cars, and 8 yellow bumper cars. At this very instant, 19 of the total bumper cars have been selected.

Which of the following facts can be determined from the information given above?

The number of children in the group that have not yet chosen a bumper car

The number of children that chose a pink bumper car

The number of boys who selected a blue bumper car

The total number of children at the theme park

The ratio of boys to girls choosing bumper cars

Correct answer: The number of children in the group that have not yet chosen a bumper car

You will want to eliminate the answer choices you know are wrong and focus on the information you are given. You know that 19 of the bumper cars have been chosen, and that there are a total of 25 children who are picking a bumper car. Therefore, you can determine how many children have not yet chosen a bumper car.

89.

250,000 Americans download an app every 12 hours. How many apps are downloaded in 144 hours?

3,000,000

2,500,000

1,000,000

3,500,000

5,000,000

Correct answer: 3,000,000

In order to find out how many apps were sold over the 144-hour period, you need to start by dividing: 144/12 = 12.

*Now, you need to multiply: 12 * 250,000 = 3,000,000.*

90.

If -5t + 8 > 35t, which of the following must be **true**?

1/5 > t

8 > t

9 > t

5 > t

1/8 > t

Correct answer: 1/5 > t

Add 5t to both sides of the equation: 8 > 40t

Divide both sides of the equation by 40: 1/5 > t

91.

The grocery store stocks 15 tomatoes, 25 cucumbers, and some watermelons. There is a 5 to 9 ratio of tomatoes to watermelons. Which of the following numbers in the problem are needed to find the total number of watermelons that the grocery store stocks?

15, 5, and 9 only

25, 5, and 9 only

15, 25, 5, and 9

5 and 9 only

15 and 25 only

Correct answer: 15, 5, and 9 only

In order to find the actual number of watermelons, you need the initial ratio, plus one actual number. The initial ratio of tomatoes to watermelons is 5 to 9, and the actual number of tomatoes is 15.

You do not need the fact that there were cucumbers stocked. This piece of information does nothing to help you solve the ratio box involving tomatoes to watermelons.

92.

Dividing a number by 4 is the same as multiplying that number by:

1/4

1/2

4

2

0.4

Correct answer: 1/4

If you select the number 20, and divide it by 4, the result is 5.

If you multiply the number 20 by 1/4, the result is 5.

1/4 means 1 divided by 4.

93.

Sarah is a bird photographer with a goal of photographing 750 different species of birds. Sarah photographed 112 species of birds in April, another 75 in May, and 156 in June. How many more species of birds does Sarah need to photograph to meet her goal?

407

563

482

343

519

Correct answer: 407

To find the correct answer, subtract April's, May's, and June's photographs from Sarah's goal of 750.

750 - 112 - 75 - 156 = 407

94.

View the *supporting details* to answer the following question.Which vehicle saw the

Which vehicle saw the **largest** percent increase in sales from 2008 to 2009?

Sport Coupe

SUV

Truck

Crossover

Correct answer: Sport Coupe

Calculate the percent increase using the percent change formula (difference / original).

The total for the Sport Coupe in 2008 is $500 and in 2009 is $550. The percent change fraction is $50/$500, thus giving you the largest percent increase at 10.0%.

95.

Claire walked 3 miles on Wednesday, 5 miles on Friday, and 2 miles on Saturday. How many total miles did Claire walk?

10

3

8

5

7

Correct answer: 10

To find the correct answer, add the three values:

3 + 5 + 2 = 10

96.

4/5 is how many times greater than 2/5?

- **2**
- 1.5
- 1.2
- 1.75
- 2.25

Correct answer: 2

The mathematical expression would be:

*4/5 ÷ 2/5 = 4/5 * 5/2 = 20/10 = 2*

97.

If 9x = 18 + 3x, what is the value of 7x?

21

3

8

9

18

Correct answer: 21

The question asks for the value of 7x. First, solve for x:

9x = 18 + 3x

6x = 18

x = 3

Now, find the value of 7x:

*7 * 3 = 21*

98.

What does z equal if 2z - 9 = 15?

12

3

6

9

48

Correct answer: 12

First, add 9 to each side of the equation: 2z = 24

Now, divide each side of the equation by 2: z = 12

99.

Don orders cable television with HBO, Starz, and Encore. Basic cable packages are $30.00, and additional channels are $10.00 each. Don pays with a hundred-dollar bill. Don uses the following expression to calculate the amount of money he should receive back from the order:

$100.00 - ($30.00 + $10.00 + $10.00 + $10.00)

Which of the following expressions could Don have also used?

$70.00 - 3 * $10.00

3 * ($100.00 - $30.00 - $10.00)

$30.00 + (3 * $10.00) - $100.00

$10.00 - $100.00 + $30.00

3($100.00 - $10.00) + ($100.00 - $30.00)

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*Correct answer: $70.00 - 3 * $10.00*

If you solve the expression given to you, you have $100.00 - $60.00 = $40.00. Therefore, the correct answer needs to produce a value of $40.00.

*The expression $70.00 - 3 * $10.00 = $40.00. This yields the same value as the given expression, so it is the correct answer.*