

Question 1:

'What is the value of p in  $24 = 2p$ ?, A. 'p = 4', B. 'p = 8', C. 'p = 12', D. 'p = 24'

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Answer Option 1:

Dividing both sides of the equation  $24 = 2p$  by 2, we get  $p = 12$ . Final answer: C

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Answer Option 2:

To solve for \$p\$, divide both sides of the equation by 2:  $p = 24/2 = 12$ . Therefore, the correct answer is C. 'p = 12'.

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Answer Option 3:

Dividing both sides of the equation  $24 = 2p$  by 2 gives  $p = 12$ . Final Answer: C

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Answer Option 4:

The equation can be solved by dividing both sides by 2. Doing so gives  $p = 24/2 = 12$ . So, the correct answer is C. 'p = 12'.

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Answer Option 5:

To solve for p divide both sides by 2. So  $p = 24 / 2 = 12$ . Final Answer: C

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Answer Option 6:

The value of p in  $24 = 2p$  is obtained by dividing both sides of the equation by 2. This gives  $p = 24/2 = 12$ . So, the correct answer is C. 'p = 12'.

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Answer Option 7:

If  $24 = 2p$ , then  $p = 24 / 2 = 12$ . Final answer: C

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Answer Option 8:

The value of p that satisfies the equation  $24 = 2p$  is  $p = 24/2 = 12$ . Therefore, the correct answer is C. 'p = 12'.

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Answer Option 9:

The value of p in the equation  $24 = 2p$  is calculated by dividing 24 by 2. Hence,  $p = 24/2 = 12$ . Final answer: C

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Question 2:

'Ms. Perez drove a total of 40 miles in 5 days. She drove the same number of miles each day. How many miles did Ms. Perez drive each day?', A. '5', B. '7', C. '8', D. '9'

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Answer Option 1:

Ms. Perez drove 40 miles in 5 days, so she drove  $40/5 = 8$  miles each day. Final Answer: C

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Answer Option 2:

Ms. Perez drove a total of 40 miles in 5 days, so she drove  $40/5 = 8$  miles each day. Final answer: C

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Answer Option 3:

Ms. Perez drove 40 miles in 5 days, so she drove  $40/5 = 8$  miles each day. Final Answer: C.

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Answer Option 4:

If Ms. Perez drove a total of 40 miles in 5 days, and she drove the same number of miles each day, then she drove  $40/5 = 8$  miles each day. Final answer: C.

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Answer Option 5:

Ms. Perez drove 40 miles in total and she drove the same distance each day for 5 days. Therefore, the number of miles she drove each day is  $40/5 = 8$  miles each day. Final answer: C.

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Answer Option 6:

If Ms. Perez drove a total of 40 miles in 5 days, and she drove the same number of miles each day, then she drove  $40/5 = 8$  miles each day. Therefore, the correct answer is C. '8'.

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Answer Option 7:

Ms. Perez drove a total of 40 miles in 5 days. To find the number of miles she drove each day, you divide the total miles (40) by the number of days (5). 40 divided by 5 equals 8. So, Ms. Perez drove 8 miles each day. Final answer: C.

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Answer Option 8:

Ms. Perez drove 40 miles total across 5 days. To find out how many miles she drove each day, divide the total miles by the number of days. 40 divided by 5 equals 8. So, Ms. Perez drove 8 miles each day.

Final Answer: C. '8'

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Answer Option 9:

Since Ms. Perez drove the same number of miles each day, if we divide the total number of miles by the total number of days, we can find out how many miles she drove each day. So,  $40 \text{ miles} / 5 \text{ days} = 8 \text{ miles/day}$ . Therefore, Ms. Perez drove 8 miles each day. Final Answer: C

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Question 3:

'Find the quotient of  $-40 \div (-8)$ .'; A. '1 over 5', B. '-5', C. '-1 over 5', D. '5'

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Answer Option 1:

The quotient of  $-40 \div (-8)$  is 5. Final Answer: D

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Answer Option 2:

The quotient of  $-40 \div (-8)$  is '5'. Final Answer: D

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Answer Option 3:

The quotient of  $-40 \div -8$  is 5. So, the correct option is D. '5'.

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Answer Option 4:

The quotient of  $-40 \div (-8)$  is 5. Therefore, the correct answer is D. '5'.

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Answer Option 5:

The quotient of  $-40 \div (-8)$  is 5. Final answer: D

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Answer Option 6:

The quotient of  $-40 \div (-8)$  is 5. So the final answer is D.

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Answer Option 7:

When dividing two negative numbers, the quotient is positive. Therefore,  $-40 \div (-8)$  equals 5. Final answer: D

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Answer Option 8:

The quotient of  $-40 \div (-8)$  is 5. The negative signs cancel out, since dividing a negative by a negative yields a positive result. Final Answer: D

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Answer Option 9:

The quotient of  $-40 \div (-8)$  is 5. The negative signs cancel out, so we are left with  $40 \div 8 = 5$ .

Final Answer: D

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Question 4:

'A soccer team has \$90.00 to buy soccer balls. If one soccer ball costs \$15.60, what is the greatest number of soccer balls the team can buy?', A. '4', B. '5', C. '6', D. '7'

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Answer Option 1:

The team has \$90.00 and each ball costs \$15.60. So, the team can buy  $\$90.00 / \$15.60 = 5.769\$$  soccer balls. Since the team can't buy a fraction of a soccer ball, the team can buy at most  $\boxed{5}$  soccer balls. Final Answer: B

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Answer Option 2:

Divide the total amount of money by the cost of one soccer ball:  $\$90.00 / \$15.60 = 5.76923...\$$ . Since the team cannot buy a fraction of a soccer ball, the greatest number of soccer balls the team can buy is  $\boxed{5}$ \$. Final answer: B.

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Answer Option 3:

Dividing the total amount of money by the cost of one soccer ball gives  $\$90.00 / \$15.60 \approx 5.769\$$ . Since the team cannot buy a fraction of a soccer ball, they can buy at most  $5\$$  soccer balls. Final Answer: B.

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Answer Option 4:

The team can buy a soccer ball for \$15.60. To find out how many balls they can buy, we need to divide the total amount of money the team has, which is \$90.00, by the cost of one soccer ball, which is \$15.60. \$90.00 divided by \$15.60 is roughly 5.76. Since the team can't buy a fraction of a soccer ball, we have to round this number down to the nearest whole number. So, the maximum number of soccer balls the team can buy is 5. The answer is B. '5'.

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Answer Option 5:

The team can buy as many balls as possible by dividing the total amount of money by the cost of one soccer ball. Thus,  $\$90.00 / \$15.60 = 5.76923076923\$$  but we cannot buy a fraction of a soccer ball, so we round down to 5. Therefore, the greatest number of soccer balls the team can buy is 5. Final answer: B.

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Answer Option 6:

To find out how many soccer balls the team can buy, we need to divide the total amount of money available by the cost of one soccer ball:  $\$90.00 / \$15.60 = 5.76\$$ . However, the team can't buy a fraction of a soccer ball, so they can only buy 5 soccer balls. Final answer: B.

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Answer Option 7:

The team has \$90.00 and each ball costs \$15.60. To find out the number of balls they can buy, we divide the total amount of money by the price of each ball.  $\$90.00 \div \$15.60 = 5.76$ . Since the team can't buy a fraction of a ball, we round down to the nearest whole number. So, the team can buy 5 balls. Final Answer: B. '5'.

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Answer Option 8:

Dividing 90 by 15.6, we get approximately 5.77. Since we cannot buy a fraction of a soccer ball, the team can buy at most 5 soccer balls. Final Answer: B

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Answer Option 9:

Dividing \$90.00 by \$15.60, we get \$5.76923076\$. Since the team can't buy a fraction of a soccer ball, the team can buy at most  $\boxed{5}$ \$. Final answer: B.

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Question 5:

'You and three friends go to a concert. The total cost for four tickets is \$112. Write and solve an equation to find the cost of one ticket t.', A. ' $4t = 112$ ; \$448', B. ' $4t = 112$ ; \$28', C. ' $t \text{ over } 4 = 112$ ; \$448', D. ' $t \text{ over } 4 = 112$ ; \$28'

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Answer Option 1:

The total cost is the number of tickets times the cost per ticket, or  $4t = 112$ . Solving this equation for t (the cost of one ticket) gives  $t = 112 / 4 = \$28$ . So, the correct answer is B. ' $4t = 112$ ; \$28'

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Answer Option 2:

The cost for four tickets is \$112, so we can write the equation as  $4t = 112$ . Solving for t, we get  $t = 112/4 = \$28$ . Final Answer: B

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Answer Option 3:

The cost of four tickets is \$112, so the equation to represent this situation is  $4t = 112$ . Solving for t (the cost of one ticket) gives  $t = 112 / 4 = \$28$ . Final answer: B

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Answer Option 4:

The total cost of the tickets is the cost of one ticket times the number of tickets. This gives us the equation  $4t = 112$ . Solving for t, we divide both sides by 4 to get  $t = 28$ . So, each ticket cost 28 dollars. The answer is B. ' $4t = 112$ ; \$28'.

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Answer Option 5:

The equation is  $4t = 112$ . To solve for t, divide both sides by 4;  $t = 112/4 = 28$ . So, the cost of one ticket is \$28. Therefore, the final answer is B. ' $4t = 112$ ; \$28'

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Answer Option 6:

The cost of four tickets is \$112. If each ticket costs t dollars, then 4 tickets would cost 4t dollars. So set up and solve the equation  $4t = 112$ . Dividing both sides by 4 gives  $t = 28$ . So each ticket costs \$28. Final

Answer: B

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Answer Option 7:

The cost for four tickets is \$112. So, if we represent the cost of one ticket as 't', we could write the equation as ' $4t = 112$ '. Solving for 't' gives us ' $t = 112 / 4 = \$28$ '. So, the correct answer is B. ' $4t = 112$ ; \$28'.

Final answer: B

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Answer Option 8:

The total cost for four tickets is \$112, which means the cost of one ticket times four equals \$112. This can be formulated as an equation like so:  $4t = 112$ . To solve for 't', we divide both sides of the equation by 4;  $t = 112/4 = \$28$ .

Final answer: B. ' $4t = 112$ ; \$28'

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Answer Option 9:

The total cost of the tickets is the cost of one ticket (t) times the number of tickets (4). Thus, the equation is  $4t = 112$ . To find the cost of one ticket, we divide both sides of the equation by 4. This gives  $t = 112/4 = 28$ . Thus, the cost of one ticket is \$28. The correct answer is B. ' $4t = 112$ ; \$28'.

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Question 6:

'Use the expression below to answer the question.  $3 \times [(2 \times 6 - 5) + (8 \div 4)] - 1$  What is the value of the expression?', A. '9', B. '11', C. '26', D. '32'

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Answer Option 1:

Firstly, we do the calculations inside the brackets:  $(2 \times 6 - 5) = 7$  and  $(8 \div 4) = 2$ .

Then, we replace these values in the expression:  $3 \times [7 + 2] - 1$

This simplifies to:  $3 \times 9 - 1 = 27 - 1 = 26$ .

So, the value of the expression is 26. Final answer: C.

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Answer Option 2:

We start by calculating the operations inside the brackets first.  $(2 \times 6 - 5) = 7$  and  $(8 \div 4) = 2$ . The expression then becomes  $3 \times [7 + 2] - 1$ . We then add the numbers inside the bracket to get  $3 \times 9 - 1$ .

Multiplying 3 and 9, we get  $27 - 1$ . Finally subtracting 1 from 27, we get 26. So, the correct answer is C. '26'.

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Answer Option 3:

First, perform the operations in the inner parentheses:  $2 \times 6 - 5$  becomes  $12 - 5 = 7$  and  $8 \div 4 = 2$ . Substituting these results back into the expression gives:  $3 \times [7 + 2] - 1$ . Add the numbers in the brackets to get  $3 \times 9 - 1$ . Multiplication comes before subtraction so you multiply to get  $27 - 1 = 26$ . So, the value of the expression is 26. Final answer: C.

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Answer Option 4:

First, we solve the expression inside the brackets. The multiplication and division operations are performed before the addition and subtraction operations.

In the first parenthesis, we multiply 2 and 6 to get 12. Subtracting 5 from 12, we get 7.

In the second parenthesis, we divide 8 by 4 to get 2.

Adding 7 and 2, we get 9.

Second, we multiply 3 by 9 to get 27.

Third, we subtract 1 from 27 to get 26.

So, the value of the expression is 26. Final Answer: C.

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Answer Option 5:

First, perform the operations inside the parentheses:  $2 \times 6 - 5 = 7$  and  $8 \div 4 = 2$ . The expression becomes  $3 \times [7 + 2] - 1$ .

Then, perform the addition inside the brackets:  $7 + 2 = 9$ . The expression becomes  $3 \times 9 - 1$ .

Next, perform the multiplication:  $3 \times 9 = 27$ . The expression becomes  $27 - 1$ .

Finally, perform the subtraction:  $27 - 1 = 26$ .

Therefore, the value of the expression is 26. Final answer: C

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Answer Option 6:

We start by performing the operations inside the parentheses first and then follow the order of operations (multiplication and division from left to right, then addition and subtraction from left to right).

In the first set of parentheses:

$$2 \times 6 - 5 = 12 - 5 = 7.$$

In the second set of parentheses:

$$8 \div 4 = 2.$$

So, the expression now reads:  $3 \times [7 + 2] - 1$ .

This simplifies to:

$$3 \times 9 - 1 = 27 - 1 = 26.$$

Therefore, the value of the expression is 26. So, the final answer is C. '26'.

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Answer Option 7:

Applying the order of operations (PEMDAS/BODMAS), we first solve the equation in the brackets:

$$2 \times 6 - 5 = 12 - 5 = 7 \text{ and } 8 \div 4 = 2.$$

Then, we add these results together:  $7 + 2 = 9$ .

Finally, we multiply by 3 and subtract 1:  $3 \times 9 - 1 = 27 - 1 = 26$ .

So, the answer is C. '26'.

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Answer Option 8:

Solving the expression step by step:

$$3 \times [(2 \times 6 - 5) + (8 \div 4)] - 1$$

$$= 3 \times [(12 - 5) + 2] - 1$$

$$= 3 \times [7 + 2] - 1$$

$$= 3 \times 9 - 1$$

$$= 27 - 1$$

$$= 26$$

Final Answer: C. '26'

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Answer Option 9:

First, perform the operations in the inner parentheses:  $2 \times 6 - 5$  equals 7 and  $8 \div 4$  equals 2. The expression now reads:  $3 \times [7 + 2] - 1$

Then, perform the operation in the brackets:  $7 + 2$  equals 9. The expression now reads:  $3 \times 9 - 1$

Next, perform the multiplication:  $3 \times 9$  equals 27. The expression now reads:  $27 - 1$

Finally, perform the subtraction:  $27 - 1$  equals 26. So, the value of the expression is 26.

Final answer: C. '26'

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Question 7:

'Write 1 and 1 over 11 as a whole or mixed number in simplest form.', A. '1.1 over 11', B. '11 over 11', C. '12 over 11', D. '11 over 12'

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Answer Option 1:

The correct answer is C. '12 over 11'. When you have 1 and 1 over 11, it means you have 1 whole and an additional 1/11 part. In total, it gives you 12/11 when written as a fraction.

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Answer Option 2:

Adding 1 and 1/11 together gives us  $1 + 1/11 = 11/11 + 1/11 = 12/11$ , which is a mixed number that can be expressed as 1 1/11 in simplest form. Final answer: C.

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Answer Option 3:

The sum of 1 and 1 over 11 is equivalent to the fraction  $11/11 + 1/11 = 12/11$ . So, the answer in simplest form is 12 over 11. Final answer: C

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Answer Option 4:

The expression "1 and 1 over 11" can be written as a mixed number as 1 1/11, which is equivalent to 12/11 in simplest form. Hence the final answer is C. '12 over 11'

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Answer Option 5:

1 and 1 over 11 is the same as  $1 + 1/11$ , which equals  $11/11 + 1/11 = 12/11$ . This can also be written as 1 1/11. Final Answer: C.

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Answer Option 6:

1 and 1 over 11 is equal to  $1 + 1/11$ . We can write this as  $11/11 + 1/11 = 12/11$ , so the answer is  $\boxed{\text{C. } 12/11}$ .

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Answer Option 7:

To write 1 and 1 over 11 as a whole or mixed number, we simply add the whole number 1 to the fraction 1/11. This results in the mixed number 1 1/11, which is equivalent to 12/11. Therefore, the answer is C.

'12 over 11'.

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Answer Option 8:

Adding the whole number 1 to the fraction 1/11 gives you the mixed number 1 1/11. This can be converted to an improper fraction by multiplying the whole number part by the denominator of the fraction ( $1 \times 11 = 11$ ), adding the numerator of the fraction ( $11 + 1 = 12$ ), and then using the original denominator (11). So,  $1 \frac{1}{11} = 12/11$ . So, the final answer is: C. '12 over 11'

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Answer Option 9:

To write 1 and 1 over 11 as a whole or mixed number, you need to combine the whole number with the fraction. This can be done by simply adding the two together. So,  $1 + 1/11 = 11/11 + 1/11 = 12/11$ . This cannot be simplified any further, as 12 and 11 have no common factors other than 1. Therefore, the answer is 12 over 11. Final answer: C.

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Question 8:

'Find the quotient of  $2.16 \div 0.06$ ,' A. '3.6', B. '36', C. '0.01272', D. '12.72'

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Answer Option 1:

The quotient of  $2.16 \div 0.06$  is 36. Final answer: B

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Answer Option 2:

The quotient of  $2.16 \div 0.06$  is 36. Final Answer: B

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Answer Option 3:

$2.16 \div 0.06 = 36$ . Final answer: B.

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Answer Option 4:

The quotient of  $2.16 \div 0.06$  is 36. Final answer: B.

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Answer Option 5:

The quotient of  $2.16 \div 0.06$  is 36. Final answer: B

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Answer Option 6:

The quotient of  $2.16 \div 0.06$  is 36. Final Answer: B

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Answer Option 7:

The quotient of  $2.16 \div 0.06$  is 36. Final Answer: B.

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Answer Option 8:

To divide 2.16 by 0.06, we can multiply both numbers by 100 to remove the decimal point. That gives  $216 \div 6$ , which equals 36. Final answer: B.

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Answer Option 9:

To divide 2.16 by 0.06, you simply divide the numbers as if they had no decimal points and then add the decimal point to the result in the correct place. Therefore, the quotient of  $2.16 \div 0.06$  is 36. So, the correct answer is B. '36'.

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Question 9:

'Find the difference of  $142.76 - 16.5$ ;', A. '159.26', B. '2.224', C. '14,111', D. '126.26'

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Answer Option 1:

The difference of  $142.76 - 16.5$  is 126.26. Final answer: D

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Answer Option 2:

The difference of  $142.76 - 16.5$  is 126.26. Final answer: D

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Answer Option 3:

The difference of  $142.76 - 16.5$  is 126.26. Final answer: D.

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Answer Option 4:

The difference of 142.76 and 16.5 is  $142.76 - 16.5 = 126.26$ . Final answer: D.

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Answer Option 5:

The difference of 142.76 and 16.5 is  $142.76 - 16.5 = 126.26$ . So, the correct answer is D. '126.26'.

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Answer Option 6:

The difference of  $142.76 - 16.5$  is 126.26. Final answer: D

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Answer Option 7:

The difference of  $142.76 - 16.5$  is 126.26. So, the final answer is D. '126.26'.

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Answer Option 8:

The difference of 142.76 and 16.5 is  $142.76 - 16.5 = 126.26$ . Final answer: D

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Answer Option 9:

The difference of  $142.76 - 16.5$  is 126.26. Final answer: D

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Question 10:

'Find the quotient of 5.04/0.7'; A. '0.72', B. '0.702', C. '10.0571', D. '7.2'

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Answer Option 1:

The quotient of 5.04 divided by 0.7 is 7.2. Therefore, the correct answer is D. '7.2'.

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Answer Option 2:

The quotient of 5.04/0.7 is 7.2. Final answer: D

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Answer Option 3:

The quotient of 5.04/0.7 is 7.2. Final answer: D

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Answer Option 4:

The quotient of 5.04/0.7 is 7.2. Final Answer: D.

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Answer Option 5:

The quotient of 5.04/0.7 is 7.2. Therefore, the final answer is D.

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Answer Option 6:

The quotient of 5.04 divided by 0.7 is 7.2. So, the correct answer is D. '7.2'.

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Answer Option 7:

The quotient of 5.04 divided by 0.7 is 7.2. So, the final answer is D. '7.2'.

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Answer Option 8:

The quotient of 5.04/0.7 is 7.2. Final Answer: D

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Answer Option 9:

Performing the division operation, 5.04 divided by 0.7 equals 7.2. So, the correct final answer is D. '7.2'.

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Question 11:

'Jimmy and Kima are going on a trip. They will drive for three days. The first day they will drive 182 miles. The second day they will drive 439 miles. The third day they will drive 217 miles. Which expression is the closest estimate of how many miles Jimmy and Kima will drive on their trip?', A. ' $150 + 400 + 200$ ', B. ' $200 + 400 + 200$ ', C. ' $200 + 450 + 200$ ', D. ' $200 + 500 + 200$ '

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Answer Option 1:

The correct estimate is ' $200 + 400 + 200$ '. Final Answer: B

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Answer Option 2:

The closest estimate of how many miles Jimmy and Kima will drive on their trip is ' $200 + 400 + 200$ '. Final answer: B

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Answer Option 3:

The closest estimate of how many miles Jimmy and Kima will drive on their trip is ' $200 + 450 + 200$ '. Therefore, the correct answer is C. ' $200 + 450 + 200$ '.

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Answer Option 4:

The expression that is the closest estimate of how many miles Jimmy and Kima will drive on their trip is B. ' $200 + 400 + 200$ '.

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Answer Option 5:

The expression ' $200 + 400 + 200$ ' is the closest estimate of how many miles Jimmy and Kima will drive on their trip. This is because '182' is closer to '200', '439' is closer to '400', and '217' is closer to '200'.

Final Answer: B

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Answer Option 6:

Rounded to the nearest hundred, 182 is approximately 200, 439 is approximately 400, and 217 is approximately 200. So, the closest estimate for the total of miles Jimmy and Kima will drive on their trip is ' $200 + 400 + 200$ '. Final Answer: B

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Answer Option 7:

The first day's drive of 182 miles is closest to 200 miles, the second day's 439 miles is closest to 450 miles, and the third day's 217 miles is also closest to 200 miles. So the best estimate of the total drive is ' $200 + 450 + 200$ '. Final answer: C

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Answer Option 8:

To estimate the total miles Jimmy and Kima will travel, we can round each day's travel to the nearest hundred. The first day's travel, 182 miles, rounds down to 200 miles. The second day's travel, 439 miles, rounds down to 400 miles. The third day's travel, 217 miles, rounds up to 200 miles. The closest estimate of the total miles they will travel is therefore ' $200 + 400 + 200$ '. Final Answer: B

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Answer Option 9:

The closest estimate to the total number of miles Jimmy and Kima will drive on their trip is obtained by rounding each day's mileage to the nearest hundred and then adding them. The first day's 182 miles is closest to 200, the second day's 439 miles is closest to 400, and the third day's 217 miles is closest to 200. Therefore, the closest estimate is ' $200 + 400 + 200$ ', which is option B.

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Question 12:

'What is the remainder of 21 divided by 7?', A. '21', B. '7', C. '1', D. 'None of these'

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Answer Option 1:

The remainder of 21 divided by 7 is 0, so the answer is D. 'None of these'.

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Answer Option 2:

The remainder of 21 divided by 7 is 0, which is not listed as an option. Therefore, the answer is D. 'None of these'.

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Answer Option 3:

The remainder of 21 divided by 7 is 0. However, this option is not available. So, the correct answer is D. 'None of these'.

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Answer Option 4:

The remainder when 21 is divided by 7 is 0 which is not given in the options. So the answer is D. 'None of these'.

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Answer Option 5:

The remainder when 21 is divided by 7 is 0. Since 0 is not an option, the correct answer is D: 'None of these'.

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Answer Option 6:

The remainder of 21 divided by 7 is 0, however that option isn't available. Therefore, the correct answer is D. 'None of these'.

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Answer Option 7:

The remainder of 21 divided by 7 is 0. However, this option is not given in the options. So, the correct answer is D. 'None of these'.

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Answer Option 8:

The remainder of 21 divided by 7 is 0. Therefore, the correct answer is D. 'None of these'.

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Answer Option 9:

The remainder of 21 divided by 7 is 0. However, none of the given options (A, B, C, or D) match this answer. Therefore, the correct answer is D: 'None of these'.

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Question 13:

'Maddie will ride her bike a total of 56 miles over 7 days. She will ride the same number of miles each day. What is the total number of miles Maddie will ride each day?', A. '8', B. '9', C. '49', D. '63'

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Answer Option 1:

Maddie will ride her bike a total of 56 miles over 7 days. If she rides the same number of miles each day, then she will ride  $56 / 7 = 8$  miles each day. Final answer: A. '8'

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Answer Option 2:

To find the total number of miles Maddie will ride each day, we divide the total number of miles she will ride by the total number of days. This gives us  $56 \text{ miles} / 7 \text{ days} = 8 \text{ miles/day}$ . So Maddie will ride 8 miles each day. Final Answer: A

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Answer Option 3:

Maddie's daily mileage is the total distance divided by the number of days. Thus, Maddie will ride  $56/7 = 8$  miles each day. Final answer: A.

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Answer Option 4:

Maddie will ride her bike a total of 56 miles over 7 days. If she rides the same number of miles each day, she will ride  $56/7 = 8$  miles each day. Final Answer: A. '8'

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Answer Option 5:

Maddie will ride her bike a total of 56 miles over 7 days. If she rides the same number of miles each day, then the total number of miles Maddie will ride each day is  $56 / 7 = 8$  miles. Final answer: A

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Answer Option 6:

Maddie will ride a total of 56 miles over 7 days. If she rides the same number of miles each day, then the total number of miles she will ride each day is  $56 \text{ miles} / 7 \text{ days} = 8 \text{ miles/day}$ . Final Answer: A. '8'

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Answer Option 7:

Maddie will ride a total of 56 miles over 7 days. If she rides the same number of miles each day, we can find the number of miles she rides per day by dividing the total number of miles by the number of days.

So,  $56 \text{ miles} / 7 \text{ days} = 8 \text{ miles/day}$ . So, Maddie will ride 8 miles each day. Final Answer: A

\*\*\*\*\*

Answer Option 8:

Since Maddie rides the same number of miles each day and she will ride a total of 56 miles over 7 days, we can calculate the number of miles she rides each day by dividing the total number of miles by the number of days. So, she rides  $56/7 = 8$  miles each day. Final Answer: A

\*\*\*\*\*

Answer Option 9:

Maddie will ride a total of 56 miles over 7 days, so to find out how many miles she rides each day, we divide the total number of miles by the number of days.  $56/7 = 8$ , so Maddie rides 8 miles each day.

Therefore, the final answer is A. '8'.

\*\*\*\*\*

Question 14:

'Find the number that makes the statement  $48 \text{ over } 88 = ? \text{ over } 11$  true.', A. '6', B. '11', C. '8', D. '5'

=====

Answer Option 1:

The number that makes the statement true is 6 because  $48/88$  is simplified to  $6/11$  and  $?/11$  should be equal to  $6/11$ , so ? is 6. Final Answer: A

\*\*\*\*\*

Answer Option 2:

The equation can be written as  $\frac{48}{88} = \frac{?}{11}$ . Simplifying the left side gives  $\frac{6}{11} = \frac{?}{11}$ . So, the number that makes the statement true is  $\boxed{6}$ . Final answer: A.

\*\*\*\*\*

Answer Option 3:

To make the statement true, you should divide both the numerator and denominator of the fraction  $48/88$  by 8. This gives  $6/11$ . Thus the unknown number that makes the statement true is 6. Final answer: A.

\*\*\*\*\*

Answer Option 4:

You can solve this problem by cross multiplying. If  $48/88 = x/11$ , then  $48 \cdot 11 = 88 \cdot x$ . Solving for x gives  $x = 48 \cdot 11 / 88 = 6$ . So, the correct answer is A. '6'.

\*\*\*\*\*

Answer Option 5:

This is a statement of a proportion, which means that the ratios of the numbers must be equal. The proportion is  $48/88 = x/11$ . To solve for x, we can cross-multiply and get  $48 \cdot 11 = 88 \cdot x$ , and by simplifying, we get  $528 = 88x$ . Divide both sides by 88, we get  $x = 6$ . Final answer: A

\*\*\*\*\*

Answer Option 6:

The number that makes the statement true is 6 because  $48/88$  simplifies to  $6/11$ . Therefore, the missing number that would make the fraction equivalent is 6. Final Answer: A

\*\*\*\*\*

Answer Option 7:

Reducing  $48 \text{ over } 88$  gives  $6 \text{ over } 11$ . Hence, the number that makes the statement true is 6. Final answer: A

\*\*\*\*\*

Answer Option 8:

The number that makes the statement true is  $48/88 = ?/11$ . We can simplify  $48/88$  to  $6/11$ . So,  $? = 6$ . Final Answer: A

\*\*\*\*\*

Answer Option 9:

To solve this statement, you simplify the fraction on the left side first.  $48/88$  simplifies to  $6/11$ . The missing number that makes the equation true is the numerator of the simplified fraction, which is 6. Final

Answer: A

\*\*\*\*\*

Question 15:

'Which is the best buy?', A. '10 bars of soap for \$23.20', B. '16 bars of soap for \$36.48', C. '13 bars of soap for \$29.51', D. '12 bars of soap for \$27.60'

=====

Answer Option 1:

To determine the best buy, we need to calculate the price per bar for each option:

A.  $\$23.20/10 = \$2.32$  per bar.

B.  $\$36.48/16 = \$2.28$  per bar.

C.  $\$29.51/13 = \$2.27$  per bar.

D.  $\$27.60/12 = \$2.30$  per bar.

Therefore, the best buy is '13 bars of soap for \$29.51'. Final Answer: C.

=====

Answer Option 2:

To find out the best buy, we need to calculate the cost per bar for each option.

A.  $\$23.20 / 10 = \$2.32$  per bar

B.  $\$36.48 / 16 = \$2.28$  per bar

C.  $\$29.51 / 13 = \$2.27$  per bar

D.  $\$27.60 / 12 = \$2.30$  per bar

So, option C has the lowest cost per bar, making it the best buy. Final Answer: C

=====

Answer Option 3:

To find out the best buy, we have to calculate the cost per bar for each option:

A.  $\$23.20 / 10 = \$2.32$  per bar

B.  $\$36.48 / 16 = \$2.28$  per bar

C.  $\$29.51 / 13 = \$2.27$  per bar

D.  $\$27.60 / 12 = \$2.30$  per bar

Option C gives the lowest cost per bar, so it is the best buy. Final answer: C

=====

Answer Option 4:

To find out which is the best buy, we should calculate the price per bar of soap for each option:

A.  $\$23.20 / 10 = \$2.32$  per bar

B.  $\$36.48 / 16 = \$2.28$  per bar

C.  $\$29.51 / 13 = \$2.27$  per bar

D.  $\$27.60 / 12 = \$2.30$  per bar

The best buy would be the one with the lowest price per bar, which is option C. So the final answer is C.

=====

Answer Option 5:

In order to find the best buy, we need to calculate the price per bar for each option:

A.  $\$23.20/10 = \$2.32$  per bar

B.  $\$36.48/16 = \$2.28$  per bar

C.  $\$29.51/13 = \$2.27$  per bar

D.  $\$27.60/12 = \$2.30$  per bar

So the best buy is C. '13 bars of soap for \$29.51'. Final Answer: C

=====

Answer Option 6:

To determine the best buy, we should calculate the price per bar of soap for each option and then choose the option with the lowest price per bar.

A.  $\$23.20 / 10 = \$2.32$  per bar

B.  $\$36.48 / 16 = \$2.28$  per bar

C.  $\$29.51 / 13 = \$2.27$  per bar

D.  $\$27.60 / 12 = \$2.30$  per bar

Therefore, the best buy is C, '13 bars of soap for \$29.51'. Final Answer: C.

=====

Answer Option 7:

We will determine the cost per bar for each option to see which is the best buy:



- A. The cost per bar is  $\$23.20/10 = \$2.32$  per bar.
- B. The cost per bar is  $\$36.48/16 = \$2.28$  per bar.
- C. The cost per bar is  $\$29.51/13 = \$2.27$  per bar.
- D. The cost per bar is  $\$27.60/12 = \$2.30$  per bar.

Therefore, the best buy is option C with a cost of  $\$2.27$  per bar. Final Answer: C

\*\*\*\*\*

Answer Option 8:

To find the best buy, we need to calculate the price per bar of soap for each option.

For A:  $\$23.20 / 10 = \$2.32$  per bar;

For B:  $\$36.48 / 16 = \$2.28$  per bar;

For C:  $\$29.51 / 13 = \$2.27$  per bar;

For D:  $\$27.60 / 12 = \$2.30$  per bar.

So, the best buy is option C, '13 bars of soap for  $\$29.51$ '. Final Answer: C

\*\*\*\*\*

Answer Option 9:

To find the best buy, we need to calculate the price per bar of soap for each option.

A. '10 bars of soap for  $\$23.20$ '  $\Rightarrow \$23.20/10 = \$2.32$  per bar

B. '16 bars of soap for  $\$36.48$ '  $\Rightarrow \$36.48/16 = \$2.28$  per bar

C. '13 bars of soap for  $\$29.51$ '  $\Rightarrow \$29.51/13 = \$2.27$  per bar

D. '12 bars of soap for  $\$27.60$ '  $\Rightarrow \$27.60/12 = \$2.30$  per bar

Thus, the best buy is option C. '13 bars of soap for  $\$29.51$ ' because it has the lowest price per bar. Final Answer: C

\*\*\*\*\*

Question 16:

'Trish's resting heart rate is 50 beats per minute. For every minute she exercises, her heart rate increases 5 beats per minute. How long will it take her to reach a heart rate of 120 beats per minute?', A. '5 minutes', B. '14 minutes', C. '34 minutes', D. '70 minutes'

=====

Answer Option 1:

Trish's heart rate increases by 5 beats per minute for every minute she exercises. Starting from a resting heart rate of 50 beats per minute, she needs an increase of  $120 - 50 = 70$  beats per minute to reach 120 beats per minute. This will take her  $70 / 5 = 14$  minutes. So, the answer is B. '14 minutes'.

\*\*\*\*\*

Answer Option 2:

The difference between Trish's resting heart rate and her target heart rate is  $120 - 50 = 70$  beats per minute. Since her heart rate increases at a rate of 5 beats per minute, it would take her  $70 \div 5 = 14$  minutes to reach a heart rate of 120 beats per minute. So, the correct answer is B. '14 minutes'.

\*\*\*\*\*

Answer Option 3:

Trish starts at 50 beats per minute and wants to reach 120 beats per minute. This is a difference of  $120 - 50 = 70$  beats per minute. Since her heart rate increases at a rate of 5 beats per minute, it will take her  $70 / 5 = 14$  minutes to reach a heart rate of 120 beats per minute. Final Answer: B. '14 minutes'

\*\*\*\*\*

Answer Option 4:

Trish starts with a heart rate of 50 bpm and wants to reach a heart rate of 120 bpm, which is an increase of  $120 - 50 = 70$  bpm. Since her heart rate increases at a rate of 5 bpm per minute, it will take her  $70 / 5 = 14$  minutes to reach her goal. Therefore, the answer is B. '14 minutes'.

\*\*\*\*\*

Answer Option 5:

Trish starts with a heart rate of 50 beats per minute. She needs to increase her heart rate to 120 beats per minute, so she needs an increase of  $120 - 50 = 70$  beats per minute. Since her heart rate increases at a rate of 5 beats per minute per minute of exercise, she will need to exercise for  $70/5 = 14$  minutes to reach a heart rate of 120 beats per minute. Therefore, the correct answer is B. '14 minutes'.

\*\*\*\*\*

Answer Option 6:

Trish starts with a heart rate of 50 beats per minute and it increases 5 beats per minute every minute she exercises. Therefore, to reach a heart rate of 120 beats per minute, she needs an increase of  $120 - 50 = 70$  beats per minute.

Since her heart rate increases 5 beats per minute every minute, it will take her  $70 / 5 = 14$  minutes to reach a heart rate of 120 beats per minute.

Therefore, the answer is B. '14 minutes'.

\*\*\*\*\*

Answer Option 7:

Trish's heart rate increases by 5 beats per minute for every minute she exercises. To reach a heart rate of 120 beats per minute from a resting heart rate of 50 beats per minute, her heart rate needs to increase by  $120 - 50 = 70$  beats per minute. If her heart rate increases by 5 beats per minute every minute, then it will take her  $70 / 5 = 14$  minutes to reach a heart rate of 120 beats per minute. Final answer: B. '14 minutes'

\*\*\*\*\*

Answer Option 8:

Trish starts with a heart rate of 50 beats per minute and it increases by 5 beats per minute with every minute of exercise. To reach a heart rate of 120 beats per minute, her heart rate needs to increase by  $120 - 50 = 70$  beats per minute. Since her heart rate increases by 5 beats per minute, it will take her  $70 / 5 = 14$  minutes to reach a heart rate of 120 beats per minute. The final answer is B. '14 minutes'.

\*\*\*\*\*

Answer Option 9:

Trish's heart rate increases by 5 beats per minute each minute she exercises. She starts at 50 beats per minute and wants to reach a heart rate of 120 beats per minute. The difference between these two rates is  $120 - 50 = 70$  beats per minute.

To find out how long it will take her to increase her heart rate by this amount, divide the total increase by the amount her heart rate increases each minute:  $70 / 5 = 14$  minutes.

So, it will take Trish 14 minutes of exercise to reach a heart rate of 120 beats per minute. Therefore, the correct answer is B. '14 minutes'.

\*\*\*\*\*

Question 17:

'Find the median in the set of data 23, 13, 18, 29, 32, 25.', A. '18', B. '24', C. '25', D. '29'

=====

Answer Option 1:

First, we need to sort the data set in ascending order: 13, 18, 23, 25, 29, 32. There are 6 data points, so the median is the average of the 3rd and 4th numbers in the sorted list, which are 23 and 25. So, the median is  $(23 + 25) / 2 = 24$ . Final Answer: B.

=====

Answer Option 2:

First, we order the data from least to greatest: 13, 18, 23, 25, 29, 32. Because there is an even number of data points, the median is the average of the middle two numbers. The middle two numbers in this case are 23 and 25, so the median is  $(23+25)/2 = 24$ . Final answer: B.

=====

Answer Option 3:

First, we need to sort the data from lowest to highest: 13, 18, 23, 25, 29, 32.

Since there are six numbers in the set, the median is the average of the middle two numbers:  $(23 + 25)/2 = 24$ .

So the answer is B. '24'.

=====

Answer Option 4:

First, we need to arrange the data in ascending order: 13, 18, 23, 25, 29, 32. Because the data set contains an even number of numbers, the median is the average of the two middle numbers. Hence, the median is  $(23 + 25)/2 = 24$ . Final Answer: B.

=====

Answer Option 5:

First, we have to order the data from smallest to largest: 13, 18, 23, 25, 29, 32.

Since there are 6 numbers, the median will be the average of the 3rd and 4th numbers.

So, the median is  $(23+25)/2 = 24$ . Final answer: B.

=====

Answer Option 6:

First, we need to arrange the data in numerical order: 13, 18, 23, 25, 29, 32.

The median is the middle number. Since we have an even number of data points, the median is the average of the two middle numbers.

The two middle numbers here are 23 and 25.

The average of 23 and 25 is 24.

So, the median of the set is 24. Final Answer: B

=====

Answer Option 7:

First, we need to put the data set in numerical order: 13, 18, 23, 25, 29, 32. Since we have an even number of values, the median is the average of the two middle values. The two middle values are 23 and 25. The average of these two values is  $(23+25)/2 = 24$ . Hence, the median of the data set is 24. Final Answer: B

=====

Answer Option 8:

First, we arrange the data in ascending order: 13, 18, 23, 25, 29, 32. With an even number of data points, the median is the average of the two middle numbers. Those numbers are 23 and 25, and their average is 24. Therefore, the median of this data set is 24. Final answer: B

=====

Answer Option 9:

First, we arrange the data in ascending order: 13, 18, 23, 25, 29, 32. The median is the average of the middle two numbers. In this case, the middle two numbers are 23 and 25. The average of 23 and 25 is  $(23 + 25)/2 = 24$ . Final Answer: B.

=====

Question 18:

'Jack picks 60 apples from an apple tree. He uses 12 of them to make applesauce. He places the remaining apples equally into 6 gift baskets. Which equation can be used to determine the number of apples, a, that Jack places into each gift basket?', A.  $(60/6) - 12 = a$ , B.  $(60 - 12)/6 = a$ , C.  $(60 - 6) - 12 = a$ , D.  $(60 + 12)/6 = a$

=====

Answer Option 1:

B.  $(60 - 12)/6 = a$

=====

Answer Option 2:

The correct equation is B.  $(60 - 12)/6 = a$ . This is because Jack first takes away 12 apples from the 60 he has, and then divides the remaining apples equally among the 6 gift baskets.

=====

Answer Option 3:

The correct equation would be B.  $(60 - 12)/6 = a$ .

First, you subtract the apples used for applesauce from the total number of apples picked. Then, you divide the remaining apples equally among the 6 gift baskets.

=====

Answer Option 4:

Jack first uses 12 apples to make applesauce and then divides the remaining apples into 6 gift baskets. The operation he performs is subtraction, followed by division. Hence, the correct equation is

$(60 - 12)/6 = a$ . Final answer: B

=====

Answer Option 5:

First, Jack picks 60 apples and uses 12 of them to make applesauce. So, the remaining apples are  $60 - 12 = 48$ . He then equally divides these 48 apples into 6 gift baskets. Hence, the number of apples a that

Jack places into each gift basket can be found using the equation:  $(60 - 12)/6 = a$ . Final Answer: B

=====

Answer Option 6:

First Jack uses 12 of the 60 apples to make applesauce, this leaves him with  $60 - 12 = 48$  apples. He then places these 48 apples equally into 6 baskets, so each basket gets  $48 / 6 = 8$  apples. The equation

used for these calculations is  $(60 - 12) / 6 = a$ . So, the correct answer is B.  $(60 - 12)/6 = a$ .

=====

Answer Option 7:

The correct equation to determine the number of apples, a, that Jack places into each gift basket is B.  $(60 - 12)/6 = a$ . Jack first uses 12 apples to make applesauce, leaving him with  $60 - 12$  apples. He then

divides the remaining apples equally among the 6 gift baskets. Therefore,  $(60 - 12)/6$  gives the number of apples in each gift basket.

=====

Answer Option 8:

Jack had 60 apples and used 12 of them to make applesauce, leaving him with  $60 - 12 = 48$  apples. He then places these 48 apples equally into 6 gift baskets, giving  $48 / 6 = 8$  apples per basket. The

equation that represents this process is  $(60 - 12) / 6 = a$ . Therefore, the correct answer is B.  $(60 - 12)/6 = a$ .

=====

Answer Option 9:

Jack picks 60 apples and makes use of 12 of them for applesauce. This means he has  $60 - 12 = 48$  apples left. After that, he divides these remaining apples equally into 6 gift baskets. The equation that

would be used to find out how many apples, a, Jack puts in each gift basket would be  $(60 - 12) / 6 = a$ . So, the correct equation is B.  $(60 - 12)/6 = a$ . Final Answer: B

=====

Question 19:

'A certain map uses a scale of 1 inch equals 25 miles. How many miles are represented by 5 inches on this map?', A. '5', B. '25', C. '50', D. '125'

=====

Answer Option 1:

The scale of the map is 1 inch equals 25 miles. Therefore, 5 inches on the map represents  $5 * 25 = 125$  miles. Final answer: D.

\*\*\*\*\*

Answer Option 2:

Given that 1 inch equals 25 miles. Therefore, 5 inches would equal  $5 * 25 = 125$  miles. So, the correct answer is D. '125'

\*\*\*\*\*

Answer Option 3:

Since 1 inch represents 25 miles, 5 inches represent  $5*25 = 125$  miles. Therefore, the final answer is D. '125'.

\*\*\*\*\*

Answer Option 4:

If 1 inch represents 25 miles, then 5 inches represent  $5 * 25 = 125$  miles. The correct answer is D. '125'.

\*\*\*\*\*

Answer Option 5:

If 1 inch equals 25 miles, then 5 inches would equal  $5*25 = 125$  miles. So, the correct answer is D. '125'

\*\*\*\*\*

Answer Option 6:

According to the scale, 1 inch represents 25 miles. Therefore, 5 inches would represent  $25*5 = 125$  miles. So, the final answer is D. '125'

\*\*\*\*\*

Answer Option 7:

Since 1 inch equals 25 miles, 5 inches would be represented by  $5*25=125$  miles. So, the answer is D. '125'

\*\*\*\*\*

Answer Option 8:

Given that 1 inch represents 25 miles, 5 inches would represent 5 times that amount. Therefore, 5 inches represent  $5 * 25 = 125$  miles. Final answer: D.

\*\*\*\*\*

Answer Option 9:

The scale of the map is 1 inch equals 25 miles. Therefore, 5 inches would represent  $5 * 25 = 125$  miles.

Final answer: D

\*\*\*\*\*

Question 20:

'Simplify  $(2 + 5)^2 - 42$ .'. A. '7', B. '16', C. '30', D. '33'

=====

Answer Option 1:

The expression  $(2 + 5)^2 - 42$  simplifies to  $7^2 - 42 = 49 - 42 = 7$ . So, the correct answer is A. '7'.

\*\*\*\*\*

Answer Option 2:

$(2 + 5)^2 - 42$  equals  $(7)^2 - 42$  equals  $49 - 42$  equals 7. Final answer: A

\*\*\*\*\*

Answer Option 3:

Solving the expression, we have  $(2+5)^2 - 42 = 7^2 - 42 = 49 - 42 = 7$ . So, the correct answer is A. '7'.

\*\*\*\*\*

Answer Option 4:

$(2 + 5)^2 - 42 = 7^2 - 42 = 49 - 42 = 7$ . So, the answer is A. '7'.

\*\*\*\*\*

Answer Option 5:

Simplifying the expression we get  $(2 + 5)^2 - 42 = 7^2 - 42 = 49 - 42 = 7$ . So the correct answer is A. '7'.

\*\*\*\*\*

Answer Option 6:

The expression  $(2 + 5)^2 - 42$  simplifies as follows:

$$= (7)^2 - 42$$

$$= 49 - 42$$

$$= 7$$

So, the answer is A. '7'.

\*\*\*\*\*

Answer Option 7:

First simplify the expression in the brackets:  $2 + 5 = 7$ . Then square this result:  $7^2 = 49$ . Finally, subtract 42 from 49 to get 7. So the simplified expression is 7. Final Answer: A

\*\*\*\*\*

Answer Option 8:

First, simplify the expression in the parentheses:  $2 + 5 = 7$ . Then square the result:  $7^2 = 49$ . Finally, subtract 42 from 49:  $49 - 42 = 7$ . So the final answer is A. 7

\*\*\*\*\*

Answer Option 9:

First, calculate the expression inside the parentheses:  $2 + 5 = 7$ . Then square this result:  $7^2 = 49$ . Finally, subtract 42 from this result:  $49 - 42 = 7$ . The correct answer is 7. Final answer: A

\*\*\*\*\*

Question 21:

'Find the value of  $4 \div 2 \cdot 2 + 8 - 4$ .' A. '-12', B. '12', C. '8', D. '16'

=====

Answer Option 1:

According to the order of operations (PEMDAS/BODMAS), we first perform the division and multiplication from left to right, and then the addition and subtraction from left to right.

So,

$$4 \div 2 \cdot 2 + 8 - 4 =$$

$$2 \cdot 2 + 8 - 4 =$$

$$4 + 8 - 4 =$$

$$12 - 4 =$$

$$8$$

Final Answer: C

=====

Answer Option 2:

Using the order of operations (PEMDAS/BODMAS), which states you should perform division and multiplication from left to right before addition and subtraction, the expression becomes:

$$4 \div 2 \cdot 2 + 8 - 4 = 2 \cdot 2 + 8 - 4 = 4 + 8 - 4 = 8.$$

So the answer is C. '8'.

=====

Answer Option 3:

Using the order of operations (PEMDAS/BODMAS - Parentheses/Brackets, Exponents/Orders, Multiplication & Division, Addition & Subtraction), the operation should be performed as follows:

First, perform the division:  $4 \div 2$  equals 2

Then, perform the multiplication:  $2 \cdot 2$  equals 4

Then, perform the addition:  $4 + 8$  equals 12

Finally, perform the subtraction:  $12 - 4$  equals 8

So, the final answer is 8. Final Answer: C

=====

Answer Option 4:

According to the order of operations (PEMDAS/BODMAS), you should perform division and multiplication from left to right before you do addition and subtraction.

So, the expression becomes:

$$\text{First, perform the division: } 4 \div 2 = 2$$

$$\text{Then the expression becomes: } 2 \cdot 2 + 8 - 4$$

$$\text{Next, perform the multiplication: } 2 \cdot 2 = 4$$

$$\text{This makes the expression: } 4 + 8 - 4$$

$$\text{Finally, perform the addition and subtraction from left to right: } 4 + 8 - 4 = 8$$

So, the final answer is C. '8'.

=====

Answer Option 5:

According to the order of operations (PEMDAS/BODMAS), which stands for Parentheses/Brackets, Exponents/Orders, Multiplication and Division (from left to right), Addition and Subtraction (from left to right), the expression is evaluated as follows:

First, perform the division and multiplication from left to right:

$$4 \div 2 = 2, \text{ then } 2 \cdot 2 = 4.$$

So, the expression becomes  $4 + 8 - 4$ .

Then, perform the addition and subtraction from left to right:

$$4 + 8 = 12, \text{ then } 12 - 4 = 8.$$

So, the value of the expression is 8.

Final answer: C

=====

Answer Option 6:

According to the order of operations, we first perform the division and multiplication from left to right, then the addition and subtraction. So, the expression becomes:

$$2 \cdot 2 + 8 - 4 = 4 + 8 - 4 = 8.$$

Final Answer: C

=====

Answer Option 7:

According to the order of operations (PEMDAS/BODMAS), which states that multiplication and division should be performed before addition and subtraction, the expression should be calculated as follows:

First calculate the division:  $4 \div 2 = 2$ .

Then do the multiplication:  $2 \cdot 2 = 4$ .

Then do the subtraction:  $8 - 4 = 4$ .

Finally, add the results together:  $2 + 4 + 4 = 10$ .

So, none of the provided options are correct.

\*\*\*\*\*

Answer Option 8:

Order of operations requires one to perform any multiplication and division from left to right before addition and subtraction. Consequently, we perform the division and multiplication first:

$$4 \div 2 \cdot 2 + 8 - 4 = 2 \cdot 2 + 8 - 4 = 4 + 8 - 4 = 8.$$

Thus, the final answer is C. 8.

\*\*\*\*\*

Answer Option 9:

According to the order of operations (PEMDAS/BODMAS), you should perform any calculations inside parentheses first, then exponents (including roots, i.e., square roots, cube roots etc), then multiplication and division (from left to right), and finally addition and subtraction (from left to right).

In this case, there are no parentheses or exponents, so you would first perform the multiplication and division from left to right, and then perform the addition and subtraction from left to right.

$$4 \div 2 \cdot 2 + 8 - 4 = 2 \cdot 2 + 8 - 4 = 4 + 8 - 4 = 8.$$

So the final answer is 8. Final Answer: C

\*\*\*\*\*



Question 22:

'A coach rounded the number of runners at a track meet to the nearest 10. The rounded number of runners is 400. Which number could be the actual number of runners at the track meet?', A. '382', B. '397', C. '406', D. '447'

=====

Answer Option 1:

The number 400, when rounded to the nearest ten, could have been any number from 395 to 404. So, the only possible actual number of runners from the options given is '397'. Final answer: B

\*\*\*\*\*

Answer Option 2:

When rounding to the nearest ten, if the number ends in 5 or above, it is rounded up. If it is less than 5, it is rounded down. Thus, any number from 395 to 404 would be rounded to 400. So, the actual number of runners could be 397. Final answer: B.

\*\*\*\*\*

Answer Option 3:

When rounding to the nearest ten, the actual number could be 5 more or 5 less than the rounded number. So, for a rounded number of 400, the actual number of runners could be any whole number from 395 to 405. Therefore, the only provided option that falls within this range is 397. Final answer: B

\*\*\*\*\*

Answer Option 4:

When rounded to the nearest 10, any number from 395 to 404 would round to 400. So, the only possible number that could be the actual number of runners at the track meet from the given options is 397.

Final answer: B.

\*\*\*\*\*

Answer Option 5:

When rounding to the nearest 10, the number can be up to 5 away from the rounded number in either direction. Therefore, the possible actual number of runners could be any number from 395 to 404. The only number in this range in the given options is 397. Final answer: B

\*\*\*\*\*

Answer Option 6:

When rounding to the nearest 10, the rounded number could be within 5 units from the actual number. This means that the actual number of runners could be anywhere from 395 to 405. The only number that falls within this range is 397. So, the correct answer is B. '397'.

\*\*\*\*\*

Answer Option 7:

When rounding to the nearest 10, if the actual number ends in 5 or greater, it is rounded up. If it ends in 4 or less, it is rounded down. For the number 400, the actual number could be anything from 395 to 404. Therefore, the only option that fits this range is 397. Final answer: B

\*\*\*\*\*

Answer Option 8:

When we round to the nearest 10, we increase the number if its units digit is 5 or more and decrease it otherwise. Since 400 is a multiple of 10, the last digit of the actual number of runners could have been anything from 5 through 4. So the actual number could be anything from 395 through 404. Therefore, the only possible answer is B. '397'.

\*\*\*\*\*

Answer Option 9:

When rounding to the nearest ten, if the number ends in a 5 or greater, it is rounded up to the next ten. If the number ends in less than 5, it is rounded down to the nearest ten. Since the number of runners is rounded to 400, the actual number of runners could be anything from 395 (rounded up) to 404 (rounded down). Therefore, the possibilities are B. '397' and C. '406'. However, option C. '406' is rounded to 410, not 400. So, the correct answer is B. '397'.

\*\*\*\*\*

Question 23:

$-4 + (-3) =$ , A.  $-7$ , B.  $-1$ , C.  $1$ , D.  $7$

=====

Answer Option 1:

A.  $-7$

=====

Answer Option 2:

A.  $-7$

=====

Answer Option 3:

A.  $-7$

=====

Answer Option 4:

A.  $-7$

=====

Answer Option 5:

A.  $-7$

=====

Answer Option 6:

The correct answer is A.  $-7$ .

=====

Answer Option 7:

The correct answer is A.  $-7$ .

=====

Answer Option 8:

$-4 + (-3) =$  is equal to  $-4 - 3$  which equals  $-7$ . So, the correct answer is A.  $-7$ .

=====

Answer Option 9:

The correct answer is A.  $-7$ . When you add a negative number, it's the same as subtracting that number. So,  $-4 + (-3)$  is the same as  $-4 - 3$ , which equals  $-7$ .

=====

Question 24:

'Mark has a stamp collection. He has 22 stamps from Japan, 34 from Canada, and 17 from Mexico. How many stamps does he have in all?', A. '53', B. '63', C. '73', D. '83'

=====

Answer Option 1:

Mark has a total of  $22 + 34 + 17 = 73$  stamps. So, the correct answer is C. '73'.

\*\*\*\*\*

Answer Option 2:

Mark has a total of 22 (from Japan) + 34 (from Canada) + 17 (from Mexico) = 73 stamps. The correct answer is C. '73'.

\*\*\*\*\*

Answer Option 3:

Mark has a total of  $22 + 34 + 17 = <<22+34+17=73>>73$  stamps. The correct answer is C. '73'.

\*\*\*\*\*

Answer Option 4:

Mark has a total of 22 stamps from Japan + 34 stamps from Canada + 17 stamps from Mexico = 73 stamps altogether. So, the correct option is C. '73'.

\*\*\*\*\*

Answer Option 5:

To find the total number of stamps, add up the stamps from each country: 22 (Japan) + 34 (Canada) + 17 (Mexico) = 73. Final answer: C

\*\*\*\*\*

Answer Option 6:

To find the total number of stamps Mark has, add the number of stamps from each country. This gives  $22 + 34 + 17 = 73$ . So Mark has 73 stamps in all. Final Answer: C. '73'

\*\*\*\*\*

Answer Option 7:

Mark has a total of 22 (from Japan) + 34 (from Canada) + 17 (from Mexico) = 73 stamps. So, the correct answer is C. '73'.

\*\*\*\*\*

Answer Option 8:

To find the total number of stamps Mark has, you add the number of stamps from each country together. So,  $22$  (from Japan) +  $34$  (from Canada) +  $17$  (from Mexico) =  $73$ . Therefore, Mark has 73 stamps in total. Final answer: C.

\*\*\*\*\*

Answer Option 9:

To find the total number of stamps Mark has, we need to add the number of stamps he has from each country. This gives us  $22$  (Japan) +  $34$  (Canada) +  $17$  (Mexico) =  $73$  stamps. Therefore, Mark has 73 stamps in all. Final answer: C. '73'

\*\*\*\*\*

Question 25:

'Identify a solution for the equation  $x + 2.7 = 8.4$  from the given numbers.', A. '11.1', B. '5.7', C. '3.7', D. '22.68'

=====

Answer Option 1:

Subtract 2.7 from both sides of the equation to isolate x, which gives that  $x = 8.4 - 2.7$ . This results in  $x = 5.7$ . Thus, the correct answer is B. '5.7'.

\*\*\*\*\*

Answer Option 2:

The solution to the equation  $x + 2.7 = 8.4$  is  $x = 8.4 - 2.7 = 5.7$ . So, the correct answer from the given numbers is B. '5.7'.

\*\*\*\*\*

Answer Option 3:

The solution to the equation  $x + 2.7 = 8.4$  is  $x = 8.4 - 2.7 = 5.7$ . So, the correct answer is B. '5.7'.

\*\*\*\*\*

Answer Option 4:

The solution to the equation  $x + 2.7 = 8.4$  is  $x = 8.4 - 2.7 = 5.7$ . Therefore, the correct answer is B. '5.7'.

\*\*\*\*\*

Answer Option 5:

To solve the equation  $x + 2.7 = 8.4$ , subtract 2.7 from each side to isolate x:

$$x = 8.4 - 2.7$$

$$x = 5.7$$

So the solution is B. '5.7'.

\*\*\*\*\*

Answer Option 6:

Subtracting 2.7 from both sides of the equation  $x + 2.7 = 8.4$ , we get  $x = 8.4 - 2.7 = 5.7$ . Therefore, B. '5.7' is the solution. Final Answer: B. '5.7'

\*\*\*\*\*

Answer Option 7:

The solution to the equation  $x + 2.7 = 8.4$  is  $x = 8.4 - 2.7 = 5.7$ . So, the correct answer is B. '5.7'.

\*\*\*\*\*

Answer Option 8:

Subtracting 2.7 from both sides of the equation  $x + 2.7 = 8.4$  gives  $x = 8.4 - 2.7 = 5.7$ . Therefore, the solution to the equation is 5.7. Final Answer: B

\*\*\*\*\*

Answer Option 9:

The solution for the equation  $x + 2.7 = 8.4$  is obtained by subtracting 2.7 from both sides which gives  $x = 8.4 - 2.7 = 5.7$ . So, the correct answer is B. '5.7'.

\*\*\*\*\*

Question 26:

'Find the number that makes the statement true:  $0.32 \text{ g} = \_ \text{ cg}$ .' A. '32', B. '3.2', C. '3,200', D. '320'

=====

Answer Option 1:

There are 100 centigrams in a gram. Therefore, 0.32 grams equals 32 centigrams. Final answer: A

\*\*\*\*\*

Answer Option 2:

1 gram (g) is equal to 100 centigrams (cg). So, 0.32 g is equivalent to  $0.32 \times 100 \text{ cg} = 32 \text{ cg}$ . The correct choice is A. '32'.

\*\*\*\*\*

Answer Option 3:

Since 1 gram is equal to 100 centigrams,  $0.32 \text{ grams} = 0.32 \times 100 = 32 \text{ centigrams}$ . So, the correct answer is: A. '32'

\*\*\*\*\*

Answer Option 4:

1 gram (g) is equal to 100 centigrams (cg). Therefore, 0.32 g is equal to  $0.32 \times 100 \text{ cg} = 32 \text{ cg}$ . Final Answer: A.

\*\*\*\*\*

Answer Option 5:

1 gram (g) is equal to 100 centigrams (cg). So, 0.32 grams is equal to  $0.32 \times 100 = 32 \text{ centigrams}$ . Therefore, the answer is A. '32'.

\*\*\*\*\*

Answer Option 6:

Since 1 gram (g) is equal to 100 centigrams (cg), 0.32 g is equal to  $0.32 \times 100 \text{ cg} = 32 \text{ cg}$ . So, the correct answer is '32'. Final Answer: A

\*\*\*\*\*

Answer Option 7:

There are 100 centigrams (cg) in 1 gram, so to convert from grams to centigrams, you multiply by 100. Therefore, 0.32 grams is equal to  $0.32 \times 100 = 32 \text{ centigrams}$ . Final answer: A. '32'

\*\*\*\*\*

Answer Option 8:

In the metric system, 1 gram (g) is equal to 100 centigrams (cg). Hence, 0.32 g is equal to  $0.32 \times 100 \text{ cg}$ , which is 32 cg. The correct answer is A. '32'.

\*\*\*\*\*

Answer Option 9:

There are 100 centigrams (cg) in a gram (g). Therefore, to convert from grams to centigrams, we multiply by 100. So, 0.32 grams is equivalent to  $0.32 \times 100 = 32 \text{ centigrams}$ .

Final answer: A. '32'

\*\*\*\*\*

Question 27:

'Find the product of  $5.7(8)$  mentally using the Distributive Property.', A. '46.4', B. '456', C. '4.56', D. '45.6'

=====

Answer Option 1:

Using the Distributive Property we can break down  $5.7(8)$  into  $(5 \cdot 8) + (.7 \cdot 8)$ . This simplifies to  $40 + 5.6 = 45.6$ . Final Answer: D.

\*\*\*\*\*

Answer Option 2:

Using the distributive property, we can rewrite  $5.7(8)$  as  $5(8) + 0.7(8) = 40 + 5.6 = 45.6$ . So, the final answer is D.

\*\*\*\*\*

Answer Option 3:

The Distributive Property can simplify this calculation. Break  $5.7(8)$  into  $(5 + 0.7)8$ . Then distribute the 8 to get  $5(8) + 0.7(8)$  which is  $40 + 5.6 = 45.6$ . So the answer is D. 45.6

\*\*\*\*\*

Answer Option 4:

The Distributive Property states that  $a(b + c) = ab + ac$ . Applying this to  $5.7 \cdot 8$ , we can think of it as  $5 \cdot 8 + 0.7 \cdot 8$ . This simplifies to  $40 + 5.6 = 45.6$ . So, the product of 5.7 and 8 is 45.6. Final answer: D

\*\*\*\*\*

Answer Option 5:

The Distributive Property states that  $a(b + c) = ab + ac$ . We can use this property to mentally calculate the product of 5.7 and 8.

Split the 5.7 into 5 and 0.7. Then you can multiply each of these by 8.

$$5 \cdot 8 = 40$$

$$0.7 \cdot 8 = 5.6$$

Add these two results together to get the final product:

$$40 + 5.6 = 45.6$$

So,  $5.7 \cdot 8 = 45.6$ . Final Answer: D

\*\*\*\*\*

Answer Option 6:

We can multiply as follows:  $5 \cdot 8 + 0.7 \cdot 8 = 40 + 5.6 = 45.6$ . So, the answer is D. 45.6.

\*\*\*\*\*

Answer Option 7:

Using the Distributive Property, we can separate  $5.7(8)$  into  $(5 \cdot 8) + (0.7 \cdot 8)$  which is  $40 + 5.6 = 45.6$ . Final Answer: D

\*\*\*\*\*

Answer Option 8:

We can use the distributive property to write  $5.7(8)$  as  $5(8) + .7(8)$ . We know that  $5(8) = 40$  and  $.7(8) = 5.6$ . Adding these together, we get  $40 + 5.6 = 45.6$ . Therefore, the product of 5.7 and 8 is 45.6. Final

Answer: D

\*\*\*\*\*

Answer Option 9:

The Distributive Property states that  $a(b + c) = ab + ac$ . We can think of 5.7 as  $5 + 0.7$ , so we have:

$$(5 + 0.7) \cdot 8 = 5 \cdot 8 + 0.7 \cdot 8 = 40 + 5.6 = 45.6.$$

Final Answer: D

\*\*\*\*\*

Question 28:

'What is the quotient for the expression  $2,314 / 4$ ?', A. '508', B. '508 r2', C. '578', D. '578 r2'

=====

Answer Option 1:

D. '578 r2'

=====

Answer Option 2:

The quotient for the expression  $2,314 / 4$  is 578 with a remainder of 2. So, the answer is D. '578 r2'.

=====

Answer Option 3:

The quotient for the expression  $2,314 / 4$  is 578 with a remainder of 2. So, the correct answer is D. '578 r2'.

=====

Answer Option 4:

The quotient for the expression  $2,314 / 4$  is '578 r2'. Final Answer: D

=====

Answer Option 5:

The quotient for the expression 2,314 divided by 4 is 578 with a remainder of 2. Therefore, the correct option is D. '578 r2'.

=====

Answer Option 6:

When you divide 2,314 by 4, the quotient is 578 with a remainder of 2. This can be written as '578 r2'. So, the correct answer is D. '578 r2'.

=====

Answer Option 7:

The quotient for the expression  $2,314 / 4$  is 578.5, which can be written as 578 remainder 2. So the correct answer is D. '578 r2'.

=====

Answer Option 8:

The quotient for the expression  $2,314 / 4$  is 578.5. But as we're looking for a whole number quotient, the answer would be '578 with a remainder of 2' which is option D. Final Answer: D

=====

Answer Option 9:

When you divide 2,314 by 4, the quotient is 578 with a remainder of 2. But the question asks for the quotient only. So, the correct answer is '578'. Final answer: C.

=====

Question 29:

'Rosa has a goal of running a total of 100 miles this month. Each day that she ran, she ran 5 miles. Which expression could Rosa use to determine how many miles she has left to run after running for d days?', A. ' $100 - 5d$ ', B. ' $5d + 100$ ', C. ' $100 / 5d$ ', D. ' $5d$ '

=====

Answer Option 1:

A. ' $100 - 5d$ '

=====

Answer Option 2:

A. ' $100 - 5d$ '

=====

Answer Option 3:

A. ' $100 - 5d$ '

=====

Answer Option 4:

A. ' $100 - 5d$ '

=====

Answer Option 5:

A. ' $100 - 5d$ '

=====

Answer Option 6:

A. ' $100 - 5d$ '

=====

Answer Option 7:

The expression Rosa could use to determine how many miles she has left to run after running for d days is A. ' $100 - 5d$ '.

=====

Answer Option 8:

Rosa is deducting 5 miles from her total goal each day she runs. The expression she could use to determine how many miles she has left to run after running for d days is ' $100 - 5d$ '. Final Answer: A.

=====

Answer Option 9:

After running for d days, Rosa has run a total of 5d miles (since she runs 5 miles each day). To find out how many miles she has left to run, she would subtract this from her goal of 100 miles. Therefore, the correct expression is  $100 - 5d$ . Final answer: A

=====



Question 30:

'Identify the algebraic expression that matches the word phrase: 4 times as many cans as Tom collected.', A. '4t', B. 't over 4', C. 't - 4', D. 't + 4'

=====

Answer Option 1:

The algebraic expression which matches the word phrase is '4t'. Final answer: A.

\*\*\*\*\*

Answer Option 2:

The algebraic expression that matches the word phrase: '4 times as many cans as Tom collected' is A. '4t'.

\*\*\*\*\*

Answer Option 3:

The phrase '4 times as many cans as Tom collected' can be represented by '4t'. Final answer: A

\*\*\*\*\*

Answer Option 4:

The correct algebraic expression for the word phrase: '4 times as many cans as Tom collected' is '4t'. So, the final answer is A.

\*\*\*\*\*

Answer Option 5:

The algebraic expression that matches the word phrase: 4 times as many cans as Tom collected is '4t'. Final Answer: A

\*\*\*\*\*

Answer Option 6:

The correct algebraic expression for the phrase '4 times as many cans as Tom collected' is represented by '4t'. So, the answer is A. '4t'.

\*\*\*\*\*

Answer Option 7:

The phrase "4 times as many cans as Tom collected" means we multiply the number of cans Tom collected by 4. If we represent the number of cans Tom collected as 't', the algebraic expression is '4t'. So, the correct answer is A. '4t'.

\*\*\*\*\*

Answer Option 8:

The correct algebraic expression for the phrase '4 times as many cans as Tom collected' is A, '4t'. This is because '4 times as many' means you multiply the quantity that Tom collected (represented by 't') by 4.

\*\*\*\*\*

Answer Option 9:

The phrase "4 times as many cans as Tom collected" refers to multiplying the number of cans Tom collected by 4. If we let 't' represent the number of cans Tom collected, then the corresponding algebraic expression is '4t'. Final answer: A.

\*\*\*\*\*

Question 31:

'Andrew wrote the number 186,425 on the board. In which number is the value of the digit 6 exactly 10 times the value of the digit 6 in the number Andrew wrote?', A. '681,452', B. '462,017', C. '246,412', D. '125,655'

=====

Answer Option 1:

The value of the digit 6 in 186,425 is  $\$6 \times 10^3 = 6000\$$ . 10 times this value is 60000. The only answer choice where the digit 6 represents 60000 is '681,452'. Final Answer: A

\*\*\*\*\*

Answer Option 2:

In the number Andrew wrote, the digit 6 stands for 6,000. So, we're looking for a number where the digit 6 stands for 60,000. The correct answer is B. '462,017'. Final Answer: B

\*\*\*\*\*

Answer Option 3:

In the number 186,425, the 6 is in the thousands place, so it represents 6000. For a 6 to represent a value that is ten times as much, it must represent 60,000. This means the 6 must be in the ten thousands place. The only number where this is the case is '246,412'. Final Answer: C

\*\*\*\*\*

Answer Option 4:

In the number 186,425, the digit 6 is in the thousands place, so it represents the value 6,000. A digit 6 that is 10 times this value would represent the value 60,000, which is the value of a digit 6 in the ten thousands place. Looking at the answer choices, we see that only choice B, '462,017', places the digit 6 in the ten thousands place. So, the answer is B. '462,017'. Final Answer: B.

\*\*\*\*\*

Answer Option 5:

The value of the digit 6 in the number that Andrew wrote is  $\$6 \times 10^2 = 600\$$ . The value of the digit 6 in the new number must be  $\$10 \times 600 = 6000\$$ . This means that the digit 6 is in the thousands place. The only option where this is the case is B. '462,017'. So, the correct answer is B. '462,017'. Final Answer: B

\*\*\*\*\*

Answer Option 6:

In the number 186,425, the digit 6 is in the thousands place, so it represents 6,000. If the value of the digit 6 is to be exactly 10 times the value of the digit 6 in the number Andrew wrote, then the digit 6 would have to be in the ten thousands place, representing 60,000. Therefore, the correct answer is  $\boxed{246,412}$ . Final Answer: C

\*\*\*\*\*

Answer Option 7:

In the number 186,425, the digit 6 is in the thousand's place, giving it a value of 6,000. For the value of the digit 6 to be exactly ten times this, it must be 60,000. Therefore, the number must have a 6 in the ten-thousand's place and no number in the hundred-thousand's place. The only number that fits this criteria is '46,2017'. Final answer: B

\*\*\*\*\*

Answer Option 8:

In the number 186,425, which can also be written as  $100,000 \times 1 + 10,000 \times 8 + 1,000 \times 6 + 100 \times 4 + 10 \times 2 + 1 \times 5$ , the 6 is in the thousands place and thus represents 6,000.

To be ten times that, or 60,000, the 6 would need to be in the ten thousands place. So, we cross out answers A and D. The 6 in answer choice C represents 240,000, not 60,000, so the correct answer is  $\boxed{\text{(B) } 462,017}$ .

\*\*\*\*\*

Answer Option 9:

The value of the digit 6 in the number Andrew wrote is  $\$6 \times 10^2 = 600\$$ . If the value of the digit 6 in the new number is exactly 10 times that, then the value of the digit 6 in the new number is  $\$600 \times 10 = 6000\$$ . In order for the digit 6 to represent this value in the new number, it must be in the thousands place. The only number with the digit 6 in the thousands place is  $\boxed{246,412}$ . Final Answer: C

\*\*\*\*\*

Question 32:

'What is  $123 \div 8$ ?', A. '15 remainder 7', B. '15 remainder 3', C. '16 remainder 5', D. '16 remainder 1'

=====

Answer Option 1:

The answer is A. '15 remainder 3'.

\*\*\*\*\*

Answer Option 2:

123 divided by 8 is 15 remainder 3. Final Answer: B

\*\*\*\*\*

Answer Option 3:

123 divided by 8 is 15 with a remainder of 3. Final answer: B.

\*\*\*\*\*

Answer Option 4:

123 divided by 8 is 15 with a remainder of 3. So the answer is B. '15 remainder 3'

\*\*\*\*\*

Answer Option 5:

The answer is A. '15 remainder 3'. When you divide 123 by 8, you get 15 and a remainder of 3.

\*\*\*\*\*

Answer Option 6:

The correct answer is A. '15 remainder 3'. When you divide 123 by 8, the quotient is 15 and the remainder is 3.

\*\*\*\*\*

Answer Option 7:

The quotient of 123 divided by 8 is 15, with a remainder of 3. So, the correct answer is '15 remainder 3'. Final Answer: B

\*\*\*\*\*

Answer Option 8:

When you divide 123 by 8, the quotient is 15 and the remainder is 3. So, the correct answer is '15 remainder 3'. Final Answer: B.

\*\*\*\*\*

Answer Option 9:

123 divided by 8 equals 15 with a remainder of 3. Final answer: B.

\*\*\*\*\*

Question 33:

'Write 8 and 2 over 4 as an improper fraction in simplest form.', A. '17 over 2', B. '34 over 4', C. '17 over 4', D. '19 over 2'

=====

Answer Option 1:

The mixed number 8 and 2 over 4 is equivalent to  $8 + \frac{2}{4} = 8 + \frac{1}{2} = 8.5$ . Written as an improper fraction, this is  $\frac{17}{2}$ . Final Answer: A. '17 over 2'

\*\*\*\*\*

Answer Option 2:

The improper fraction form of 8 and 2 over 4 is obtained by multiplying 8 by 4 (the denominator of the fraction) and then adding the numerator (2), all over the denominator (4). This gives  $\frac{32 + 2}{4} = \frac{34}{4}$ .

Simplifying this fraction (dividing numerator and denominator by their greatest common divisor, 2), we get 17 over 2. Final answer: A.

\*\*\*\*\*

Answer Option 3:

To write 8 and 2 over 4 as an improper fraction in simplest form, you first convert 8 to a fraction with denominator 4 (which is  $\frac{32}{4}$ ), then add  $\frac{2}{4}$ . This gives  $\frac{34}{4}$ , which simplifies to  $\frac{17}{2}$ . Final answer: A.

\*\*\*\*\*

Answer Option 4:

8 and 2 over 4 can be read as the mixed number  $8\frac{2}{4}$ . To convert this to an improper fraction, multiply the whole number part by the denominator of the fractional part and add the numerator. This gives  $8 \cdot 4 + 2 = 34$ . So, the improper fraction is  $\frac{34}{4}$  which simplifies to  $\frac{17}{2}$ . So the answer is  $\boxed{\frac{17}{2}}$ . Final Answer: A

\*\*\*\*\*

Answer Option 5:

To write the mixed number 8 and 2 over 4 as an improper fraction, you would multiply the whole number (8) by the denominator of the fraction (4) and then add the numerator of the fraction (2). This gives you the new numerator of the improper fraction. The denominator remains the same. So,  $8 \cdot 4 + 2 = 34$ . Therefore, the improper fraction is  $\frac{34}{4}$  over 4. However, this can be simplified further by dividing both the numerator and denominator by their greatest common divisor, which is 2. So,  $\frac{34}{4} \div 2 \div 2 = \frac{17}{2}$  over 2. Final answer: A. '17 over 2'

\*\*\*\*\*

Answer Option 6:

To write the mixed number 8 and 2 over 4 as an improper fraction, you multiply the denominator of the fractional part (4) by the whole number part (8) and then add the numerator of the fractional part (2). This gives you the new numerator of the improper fraction. The denominator remains the same (4). So, the improper fraction is  $(8 \cdot 4 + 2) / 4 = 34 / 4 = 17 / 2$ . Therefore, the answer is A. '17 over 2'.

\*\*\*\*\*

Answer Option 7:

An improper fraction is a fraction where the numerator (top number) is greater than or equal to the denominator (bottom number). To convert the mixed number 8 and  $\frac{2}{4}$  to an improper fraction, first simplify  $\frac{2}{4}$  to  $\frac{1}{2}$ . Then, you multiply the whole number 8 by the denominator 2 and add the numerator 1, which gives you 17. The denominator remains the same. So, 8 and  $\frac{2}{4}$  is equivalent to  $\frac{17}{2}$  as an improper fraction.

Final answer: A

\*\*\*\*\*

Answer Option 8:

To write 8 and 2 over 4 as an improper fraction, you first multiply the whole number (8) by the denominator of the fraction (4) and then add the numerator of the fraction (2). This gives you  $8 \cdot 4 + 2 = 32 + 2 = 34$ . So, the improper fraction is  $\frac{34}{4}$  over 4. However, this is not in simplest form. When you simplify this fraction by dividing the numerator and the denominator by their greatest common divisor (2), you get 17 over 2. Final Answer: A. '17 over 2'

\*\*\*\*\*

Answer Option 9:

An improper fraction is a fraction where the numerator (top number) is greater than or equal to the denominator (bottom number). When we have a mixed number like 8 and 2 over 4, we can convert it to an improper fraction by multiplying the whole number (8 in this case) by the denominator of the fraction (4 in this case) and adding the numerator of the fraction (2 in this case).

So, 8 and 2 over 4 becomes  $(8 \cdot 4 + 2) \text{ over } 4 = 34 \text{ over } 4$ .

However, we need to simplify this improper fraction by dividing the numerator and the denominator by their greatest common divisor, which is 2.

So, 34 over 4 simplifies to 17 over 2.

Final answer: A. '17 over 2'

\*\*\*\*\*

Question 34:

'What expression can be used to show 270,240 written in expanded form?', A. '200,000 + 7,000 + 200 + 4', B. '200,000 + 7,000 + 200 + 40', C. '200,000 + 70,000 + 200 + 40', D. '200,000 + 70,000 + 2,000 + 40'

=====

Answer Option 1:

The correct expanded form for 270,240 would be '200,000 + 70,000 + 200 + 40'. Final answer: C

\*\*\*\*\*

Answer Option 2:

The number 270,240 written in expanded form is '200,000 + 70,000 + 200 + 40'. Final Answer: C

\*\*\*\*\*

Answer Option 3:

The correct expanded form of 270,240 is '200,000 + 70,000 + 200 + 40'. Final Answer: C

\*\*\*\*\*

Answer Option 4:

The number 270,240 written in expanded form is '200,000 + 70,000 + 200 + 40'. Final Answer: C

\*\*\*\*\*

Answer Option 5:

The correct expanded form for 270,240 is '200,000 + 70,000 + 200 + 40'. Therefore, the answer is C: '200,000 + 70,000 + 200 + 40'.

\*\*\*\*\*

Answer Option 6:

The correct expression for the expanded form of 270,240 is '200,000 + 70,000 + 200 + 40'. Final Answer: C.

\*\*\*\*\*

Answer Option 7:

The correct expanded form for 270,240 is '200,000 + 70,000 + 200 + 40'. Therefore, the correct answer is C.

\*\*\*\*\*

Answer Option 8:

270,240 can be written in expanded form as '200,000 + 70,000 + 200 + 40'. Therefore, the correct answer is C. '200,000 + 70,000 + 200 + 40'.

\*\*\*\*\*

Answer Option 9:

The expanded form of 270,240 is '200,000 + 70,000 + 200 + 40'. Therefore, the correct option is C. '200,000 + 70,000 + 200 + 40'.

\*\*\*\*\*

Question 35:

'A worker on an assembly line takes 7 hours to produce 22 parts. At that rate how many parts can she produce in 35 hours?', A. '220 parts', B. '770 parts', C. '4 parts', D. '110 parts'

=====

Answer Option 1:

The worker produces 22 parts in 7 hours, so she produces  $22/7 = 3.14$  parts per hour. Therefore, in 35 hours, she can produce  $35 * 3.14 = 110$  parts. Final answer: D.

\*\*\*\*\*

Answer Option 2:

Her rate of production is 22 parts per 7 hours, or  $22/7$  parts per hour. So in 35 hours, she can produce  $(22/7)*35 = 110$  parts. Final Answer: D

\*\*\*\*\*

Answer Option 3:

The worker produces 22 parts per 7 hours, which means she produces  $22/7 = 3.14$  parts per hour. So in 35 hours, she can produce  $3.14 * 35 = 110$  parts. Final answer: D.

\*\*\*\*\*

Answer Option 4:

If it takes 7 hours to produce 22 parts, then the worker produces at a rate of  $22/7 = 3.14$  parts per hour. If she works for 35 hours, then she can produce  $35 * 3.14 = 110$  parts. Final Answer: D. '110 parts'

\*\*\*\*\*

Answer Option 5:

We first find out how many parts the worker produces in one hour by dividing the total number of parts by the total number of hours. That is  $22 \text{ parts} / 7 \text{ hours} = 3.14 \text{ parts/hour}$ . Then we multiply this rate by 35 hours to find out how many parts the worker can produce in 35 hours:  $3.14 \text{ parts/hour} * 35 \text{ hours} = 110 \text{ parts}$ . The worker can produce 110 parts in 35 hours. Final answer: D. '110 parts'.

\*\*\*\*\*

Answer Option 6:

In 7 hours, the worker produces 22 parts. Therefore, in 1 hour, she produces  $22/7$  parts. In 35 hours, she can produce  $(35*22)/7 = 110$  parts. Final Answer: D.

\*\*\*\*\*

Answer Option 7:

The worker's rate is 22 parts per 7 hours, or  $22/7$  parts per hour. Multiplying this rate by 35 hours gives  $(22/7)*35 = 110$  parts. So the worker can produce 110 parts in 35 hours. Final answer: D. '110 parts'

\*\*\*\*\*

Answer Option 8:

The worker's rate of production is 22 parts per 7 hours, or  $22/7$  parts per hour. So in 35 hours, she can produce  $(22/7) * 35 = 110$  parts. Final answer: D.

\*\*\*\*\*

Answer Option 9:

The worker's rate of production is 22 parts per 7 hours, or  $22/7$  parts per hour. Multiply this rate by 35 hours to find the number of parts she can produce in 35 hours:  $(22/7) \text{ parts/hour} * 35 \text{ hours} = 110 \text{ parts}$ .

Final Answer: D

\*\*\*\*\*

Question 36:

'Abe found the mean and median of this list of numbers. 1, 3, 3. If the number 6 were added to the list, then', A. 'the mean would increase.', B. 'the mean would decrease.', C. 'the median would increase.', D. 'the median would decrease.'

=====

Answer Option 1:

Adding the number 6 to the list would increase the total sum of the numbers in the list, therefore making the mean (average) higher than before, hence the mean would increase, so the correct answer would be A. 'the mean would increase.'

\*\*\*\*\*

Answer Option 2:

The original mean of the list is  $\frac{1+3+3}{3}=2.33$ . If you add 6 to the list, the mean becomes  $\frac{1+3+3+6}{4}=3.25$  so the mean would increase. The median of the original list is 3. If 6 is added, the median becomes 3 as well, so the median would not change. Therefore, the correct answer is A. 'the mean would increase.'

\*\*\*\*\*

Answer Option 3:

Adding 6 to the list would increase both the mean and median. The mean of 1, 3, 3 is  $\frac{7}{3}$ , and the mean of 1, 3, 3, 6 is  $\frac{13}{4}$ , which is greater than  $\frac{7}{3}$ . The median of 1, 3, 3 is 3, and the median of 1, 3, 3, 6 is  $\frac{3+3}{2}=3$ , which is the same as the median of the original list. Final answer: A

\*\*\*\*\*

Answer Option 4:

Adding the number 6 to the list would increase the total sum of the numbers from 7 to 13. Since the mean is the sum divided by the number of terms, the mean would increase because the sum increases and the number of terms also increases. Therefore, the correct option A: 'the mean would increase'. The median of the original list is 3. When 6 is added, the numbers in the list (when arranged in ascending order) are 1, 3, 3, and 6. The median of this list is the average of the two middle terms, which is 3. Therefore, the median also increases. Thus, another correct option is C: 'the median would increase'.

Therefore, the final answer is A and C.

\*\*\*\*\*

Answer Option 5:

The mean of the original list is  $\frac{1+3+3}{3} = \frac{7}{3}$  and the median is 3. Adding 6 to the list makes the new mean  $\frac{1+3+3+6}{4} = \frac{13}{4}$  and the new median is  $\frac{3+3}{2} = 3$ .

Hence, the mean increased and the median remained the same. The correct answer is A. 'the mean would increase.'

\*\*\*\*\*

Answer Option 6:

The current mean of the list is  $\frac{1+3+3}{3} = 2.333$ , and the median is 3. If we add 6 to the list, the new mean would be  $\frac{1+3+3+6}{4} = 3.25$ , which is higher than the current mean. Thus, the mean would increase.

Meanwhile, the median of the new list (1, 3, 3, 6) is  $\frac{3+3}{2} = 3$ , which is the same as the old median. Thus, the median wouldn't change.

Therefore, the correct answer is: A. 'the mean would increase.'

\*\*\*\*\*

Answer Option 7:

The original mean of the list is  $\frac{1+3+3}{3} = \frac{7}{3}$ . When 6 is added to the list, the new mean becomes  $\frac{1+3+3+6}{4} = \frac{13}{4}$ . Since  $\frac{13}{4}$  is greater than  $\frac{7}{3}$ , the mean increases.

The original median of the list is 3. When 6 is added, the list becomes 1, 3, 3, 6 and the median is  $\frac{3+3}{2} = 3$ . The median stays the same.

Therefore, the correct answer is A. 'the mean would increase.'

\*\*\*\*\*

Answer Option 8:

The mean of the initial list is  $\frac{1+3+3}{3} = \frac{7}{3}$ . If we add the number 6, the mean of the new list becomes  $\frac{1+3+3+6}{4} = \frac{13}{4}$ , which is greater than the original mean. Therefore, the mean would increase.

The median of the initial list is 3. When we add the number 6, the list becomes 1, 3, 3, 6. The median of the new list is the average of the two middle numbers,  $\frac{3+3}{2} = 3$ , which is the same as the original median. Therefore, the median would not change.

So, only the mean would increase. Final answer: A.

\*\*\*\*\*

Answer Option 9:

Adding the number 6 to the list would increase both the total sum of the numbers (and thus the mean) and the middle value of the ordered list (and thus the median). So, final answer: A and C.

Since only one answer can be given, the correct one is A. 'The mean would increase.'

\*\*\*\*\*

Question 37:

'When  $n = 11$ , what is the value of  $10 - (n + 6)$ ?', A. '-7', B. '5', C. '7', D. '27'

=====

Answer Option 1:

Substituting  $n = 11$  into the expression gives  $10 - (11 + 6) = 10 - 17 = -7$ . Final answer: A

\*\*\*\*\*

Answer Option 2:

When  $n = 11$ , the expression  $10 - (n + 6)$  simplifies to  $10 - (11 + 6) = 10 - 17 = -7$ . So, the correct answer is A. '-7'.

\*\*\*\*\*

Answer Option 3:

Substitute  $n = 11$  into the expression to get  $10 - (11 + 6) = 10 - 17 = -7$ . So, the answer is A. '-7'.

\*\*\*\*\*

Answer Option 4:

Substitute  $n = 11$  into the expression to get  $10 - (11 + 6) = 10 - 17 = -7$ . So, the correct answer is A. '-7'.

\*\*\*\*\*

Answer Option 5:

Plugging 11 in for  $n$  gives  $10 - (11 + 6) = 10 - 17 = -7$ . So, the answer is A. '-7'.

\*\*\*\*\*

Answer Option 6:

When  $n = 11$ , the expression  $10 - (n + 6)$  becomes  $10 - (11 + 6) = 10 - 17 = -7$ . Thus, the correct answer is A. '-7'.

\*\*\*\*\*

Answer Option 7:

Plugging  $n = 11$  into the expression  $10 - (n + 6)$  gives  $10 - (11 + 6) = 10 - 17 = -7$ . So, the correct answer is A. '-7'

\*\*\*\*\*

Answer Option 8:

Substitute  $n = 11$  into the expression to get:  $10 - (11 + 6) = 10 - 17 = -7$ . So, the correct answer is A. '-7'.

\*\*\*\*\*

Answer Option 9:

The value of  $10 - (n + 6)$  when  $n = 11$  is  $10 - (11 + 6) = 10 - 17 = -7$ . Therefore, the correct final answer is A. '-7'.

\*\*\*\*\*



Question 38:

'Which expression represents the phrase below? 3 fewer than a number, p', A. ' $3-p$ ', B. ' $p+3$ ', C. ' $3/p$ ', D. ' $p-3$ '

=====

Answer Option 1:

The phrase "3 fewer than a number, p" is represented as ' $p-3$ '. Final answer: D

\*\*\*\*\*

Answer Option 2:

The correct expression for the phrase "3 fewer than a number, p" is " $p-3$ ". Final Answer: D

\*\*\*\*\*

Answer Option 3:

The phrase "3 fewer than a number, p" can be written as " $p - 3$ ". Therefore, the correct answer is D. ' $p-3$ '.

\*\*\*\*\*

Answer Option 4:

The phrase "3 fewer than a number, p" is represented by the expression " $p-3$ ". So, the correct answer is D. ' $p-3$ '.

\*\*\*\*\*

Answer Option 5:

The phrase "3 fewer than a number, p" means we subtract 3 from p. This is represented by the expression " $p - 3$ ". Final Answer: D

\*\*\*\*\*

Answer Option 6:

"3 fewer than a number, p" means you start with "p" and then subtract 3. So, the correct expression is " $p-3$ ". Final answer: D

\*\*\*\*\*

Answer Option 7:

The phrase "3 fewer than a number, p" means that we start with the number p and then subtract 3. Hence, the correct expression is ' $p-3$ '. Final Answer: D

\*\*\*\*\*

Answer Option 8:

The phrase "3 fewer than a number, p" translates to the expression " $p-3$ ". So, the correct answer is D. ' $p-3$ '.

\*\*\*\*\*

Answer Option 9:

The phrase "3 fewer than a number, p" translates to the expression " $p - 3$ ". So, the correct option is D. ' $p-3$ '

\*\*\*\*\*

Question 39:

'A theater collected \$6 for each ticket sold to a movie. The theater sold 500 tickets to the movie. The expression below can be used to find how much money the theater collected for the tickets.  $6 \times 500$  Which expression can also be used to find how much money the theater collected for the tickets?', A. ' $30 \times 10^1$ ', B. ' $30 \times 10^3$ ', C. ' $(6 \times 5) \times 10^2$ ', D. ' $(6 \times 5) \times 10^3$ '

=====

Answer Option 1:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 2:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 3:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 4:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 5:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 6:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 7:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 8:

C. ' $(6 \times 5) \times 10^2$ '

=====

Answer Option 9:

The expression that can also be used to find how much money the theater collected for the tickets is C. ' $(6 \times 5) \times 10^2$ '

=====

Question 40:

'Let  $12-9+c=12$ . What value of  $c$  makes the equation true?', A. '0', B. '3', C. '9', D. '12'

=====

Answer Option 1:

The equation simplifies to  $3 + c = 12$ . Subtracting 3 from both sides, we get  $c = 9$ . Therefore the correct answer is C. '9'.

\*\*\*\*\*

Answer Option 2:

The left side of the equation simplifies to  $3+c=12$ . To solve for  $c$ , subtract 3 from both sides to get  $c=12-3=9$ . So, the correct answer is C. '9'.

\*\*\*\*\*

Answer Option 3:

The equation is  $12 - 9 + c = 12$ , which simplifies to  $3 + c = 12$ . Subtracting 3 from both sides gives  $c = 12 - 3$ , so  $c = 9$ . The answer is thus C. '9'.

\*\*\*\*\*

Answer Option 4:

The equation can be simplified to  $3+c=12$ . Subtracting 3 from both sides, we get  $c = 12-3 = 9$ . Final Answer: C

\*\*\*\*\*

Answer Option 5:

The equation  $12 - 9 + c = 12$  simplifies to  $3 + c = 12$ . Subtracting 3 from both sides gives  $c = 9$ . Final Answer: C.

\*\*\*\*\*

Answer Option 6:

The equation is simplified as  $3 + c = 12$ . Therefore, the value of  $c$  that makes the equation true is  $12 - 3 = 9$ . Final Answer: C

\*\*\*\*\*

Answer Option 7:

The equation simplifies to  $3 + c = 12$ . Subtracting 3 from both sides gives  $c = 12 - 3$ , so  $c = 9$ . Final Answer: C

\*\*\*\*\*

Answer Option 8:

$12 - 9 + c = 12$  simplifies to  $3 + c = 12$ . Therefore,  $c = 12 - 3 = 9$ . The value that makes the equation true is C. '9'.

\*\*\*\*\*

Answer Option 9:

To make the equation true, the value of  $c$  should be such that  $12-9+c=12$  simplifies to  $12=12$ . Simplifying the left side of the equation gives us  $3+c=12$ . Subtracting 3 from both sides gives  $c=12-3$ , which simplifies to  $c=9$ . So, the answer is C. '9'.

\*\*\*\*\*

Question 41:

The Sojourn family went on a vacation. They started with \$2000. If they spent \$150 each day, which expression represents how much money they had after  $x$  days?, A. ' $1850x$ ', B. ' $2000 - 150x$ ', C. ' $150x$ ', D. ' $2000 + 150x$ '

=====

Answer Option 1:

B. ' $2000 - 150x$ '

=====

Answer Option 2:

B. ' $2000 - 150x$ '

=====

Answer Option 3:

The Sojourn family spent \$150 each day. This amount is subtracted from their initial amount of \$2000. So, after  $x$  days, the amount of money they have is represented by the expression ' $2000 - 150x$ '. Final answer: B.

=====

Answer Option 4:

The Sojourn family spends \$150 each day, so after  $x$  days, they would have spent a total of \$ $150x$ . They started with \$2000, so to find out how much money they had after  $x$  days, we subtract the amount they spent from their starting amount. This gives us the expression  $2000 - 150x$ . Therefore, the correct answer is B. ' $2000 - 150x$ '.

=====

Answer Option 5:

The Sojourn family spends \$150 each day. So, after  $x$  days, they would have spent a total of \$ $150x$ . Since they started with \$2000, the amount of money they have left after  $x$  days would be the initial amount minus the total amount spent, which is  $2000 - 150x$ . Final answer: B

=====

Answer Option 6:

The Sojourn family spent \$150 each day. After  $x$  days, they would have spent a total of  $150 \cdot x$  dollars. Since they started with \$2000, the money left after  $x$  days will be their initial amount minus the total spent, which is represented by the expression ' $2000 - 150x$ '. So, the correct answer is B. ' $2000 - 150x$ '.

=====

Answer Option 7:

The Sojourn family spent \$150 each day for  $x$  days, so they spent a total of \$ $150 \cdot x$ . They started with \$2000, so after  $x$  days, they had  $2000 - 150 \cdot x$ . Hence, the correct choice is ' $2000 - 150x$ '. Final Answer: B

=====

Answer Option 8:

The Sojourn family spent \$150 each day for  $x$  days so they spent a total of \$ $150x$ . They started with \$2000, so after  $x$  days, they had  $2000 - 150x$  left. Therefore, the correct expression representing how much money they had after  $x$  days is  $\boxed{2000 - 150x}$ . Final answer: B

=====

Answer Option 9:

The Sojourn family is spending money, not earning it, so we know that the amount of money they have is decreasing each day. This eliminates options A and D, which suggest that their money is increasing each day. Option C suggests the family is losing all their money immediately, then spending \$150 each day, which isn't correct according to the problem. So, the correct answer is option B, ' $2000 - 150x$ '. It means the family started with \$2000 and then spent \$150 each day for  $x$  days. Final Answer: B

=====

Question 42:

'A shelf has four books on it. The weight, in pounds, of each of the four books on the shelf is 2.5, 3.2, 2.7, 2.3 Which inequality represents the weight,  $w$ , of any book chosen from the shelf?', A. ' $w > 2.3$ ', B. ' $w < 2.4$ ', C. ' $w > 3.2$ ', D. ' $w < 3.3$ '

=====

Answer Option 1:

The weight of the books ranges from 2.3 to 3.2 pounds. This means any book chosen from the shelf will have a weight greater than 2.3 but less than 3.3. Thus, the correct inequality is D. ' $w < 3.3$ '.

\*\*\*\*\*

Answer Option 2:

The weight of any book chosen from the shelf must be at least 2.3 pounds and at most 3.2 pounds. Therefore, the weight  $w$  of any book chosen from the shelf must satisfy  $2.3 \leq w \leq 3.2$ . This is represented by the inequalities A. ' $w > 2.3$ ' and D. ' $w < 3.3$ '. Final Answer: A, D

\*\*\*\*\*

Answer Option 3:

The weight of any book chosen from the shelf is greater than or equal to the lightest book and less than or equal to the heaviest book. The lightest book weighs 2.3 pounds and the heaviest book weighs 3.2 pounds. Therefore, the weight  $w$  of any book chosen from the shelf must satisfy the inequality  $2.3 \leq w \leq 3.2$ . The option that correctly represents this is ' $w < 3.3$ '. Final answer: D

\*\*\*\*\*

Answer Option 4:

The weight of any book chosen from the shelf must be greater than or equal to the weight of the lightest book, and less than or equal to the weight of the heaviest book. So,  $2.3 \leq w \leq 3.2$ . This is represented by the combination of the inequalities A. ' $w > 2.3$ ' and D. ' $w < 3.3$ '. However, since we can only choose one answer, D. ' $w < 3.3$ ' is the correct answer since it captures the upper limit of the weight. Final

Answer: D

\*\*\*\*\*

Answer Option 5:

The weights of the books range from 2.3 pounds to 3.2 pounds. Therefore, the weight  $w$  of any book chosen from the shelf would be greater than or equal to 2.3 and less than or equal to 3.2. The inequality that represents this situation is " $w > 2.3$ " (since  $w$  could be equal to 2.3, the exact condition is actually " $w \geq 2.3$ ", but " $w > 2.3$ " is the closest among the given options). So, the correct final answer is A. ' $w > 2.3$ '.

\*\*\*\*\*

Answer Option 6:

The weights of the books range from 2.3 to 3.2 pounds. Thus, the weight of any book selected would be greater than or equal to 2.3 pounds and less than or equal to 3.2 pounds. Therefore, the correct inequalities would be ' $w \geq 2.3$ ' and ' $w \leq 3.2$ '. However, since these exact inequalities are not provided in the options, the closest match would be ' $w > 2.3$ ' and ' $w < 3.3$ '. Of the two, ' $w < 3.3$ ' is the most accurate as it includes all possible values of  $w$ . Hence, the correct answer is ' $w < 3.3$ '. Final Answer: D

\*\*\*\*\*

Answer Option 7:

The weight of any book chosen from the shelf must be between the weights of the lightest and heaviest books. The lightest book weighs 2.3 pounds and the heaviest book weighs 3.2 pounds. Therefore, the weight,  $w$ , of any book chosen from the shelf must satisfy  $2.3 \leq w \leq 3.2$ . So, the correct inequality is A. ' $w > 2.3$ ' and D. ' $w < 3.3$ '. But since we only need one answer, the appropriate answer is D. ' $w < 3.3$ '.

Final answer: D

\*\*\*\*\*

Answer Option 8:

The weights of the books are 2.5, 3.2, 2.7, 2.3. Therefore, the weight of any book chosen from the shelf will be greater than or equal to 2.3 and less than or equal to 3.2. The only inequality that correctly represents this is A. ' $w > 2.3$ '. However, this doesn't take into account the upper limit. The correct answer should be " $2.3 \leq w \leq 3.2$ ". Among the provided options, the closest one would be D. ' $w < 3.3$ '. Final

Answer: D

\*\*\*\*\*

Answer Option 9:

The weight of any book chosen from the shelf must be greater than or equal to the least weight and less than or equal to the greatest weight. The least weight is 2.3 pounds and the greatest weight is 3.2 pounds. Therefore, the correct inequality that represents the weight,  $w$ , of any book chosen from the shelf is  $2.3 \leq w \leq 3.2$ . This means that  $w$  is greater than or equal to 2.3 and less than or equal to 3.2. Thus, the correct answer that contains this range is A. ' $w > 2.3$ ' and D. ' $w < 3.3$ '. But since the question asks for only one answer, we must choose the option that best represents the range, which is ' $w > 2.3$ '. So, the final answer is A. ' $w > 2.3$ '.

\*\*\*\*\*

Question 43:

'Which number has an absolute value greater than 5?'. A. '-6', B. '-5', C. '0', D. '5'

=====

Answer Option 1:

The number with an absolute value greater than 5 is '-6'. Final answer: A

\*\*\*\*\*

Answer Option 2:

The number with an absolute value greater than 5 is '-6'. Final answer: A.

\*\*\*\*\*

Answer Option 3:

The number with an absolute value greater than 5 is '-6'. Final answer: A

\*\*\*\*\*

Answer Option 4:

The number with an absolute value greater than 5 is '-6'. Final answer: A

\*\*\*\*\*

Answer Option 5:

The number with an absolute value greater than 5 is -6. Final answer: A.

\*\*\*\*\*

Answer Option 6:

The number '-6' has an absolute value of 6, which is greater than 5. Final answer: A

\*\*\*\*\*

Answer Option 7:

The number with an absolute value greater than 5 is A. '-6'. The absolute value of -6 is 6, which is greater than 5.

\*\*\*\*\*

Answer Option 8:

The only number among the options which has an absolute value greater than 5 is -6. Absolute value of a number refers to its distance from 0 on the number line, ignoring the direction. The absolute value of -6 is 6 which is greater than 5. Therefore, the correct answer is A. '-6'.

\*\*\*\*\*

Answer Option 9:

The absolute value of a number is its distance from zero on the number line. In this question, we are looking for a number that is more than 5 units away from zero. Options B, C, and D are all less than or equal to 5 units away from zero. Option A, -6, is 6 units away from zero, so it is more than 5 units away from zero. Therefore, the correct answer is A. '-6'.

\*\*\*\*\*

Question 44:

'What is the value of the expression  $2(3(4^2 + 1)) - 2^3$ ?, A. '156', B. '110', C. '94', D. '48'

=====

Answer Option 1:

Solving inside the parentheses first, we get  $2(3(16+1))-8$ . This simplifies to  $2(3*17)-8$ . Further simplification gives  $2*51-8$ . So, the final answer is  $102-8 = 94$ . Final answer: C.

=====

Answer Option 2:

The expression simplifies as follows:

$$2(3(4^2 + 1)) - 2^3 = 2(3(16+1)) - 8 = 2(3*17) - 8 = 2*51 - 8 = 102-8 = 94$$

So, the value of the expression is 94. Final Answer: C

=====

Answer Option 3:

The expression simplifies as follows:

$$2(3(4^2 + 1)) - 2^3$$

$$= 2(3(16 + 1)) - 8$$

$$= 2(3*17) - 8$$

$$= 2*51 - 8$$

$$= 102 - 8$$

$$= 94$$

So, the correct answer is C. '94'.

=====

Answer Option 4:

We have  $2(3(4^2 + 1)) - 2^3 = 2(3(16 + 1)) - 2^3 = 2(3 * 17) - 8 = 2(51) - 8 = 102 - 8 = 94$ . So, the correct answer is C. 94.

=====

Answer Option 5:

The expression can be simplified as follows:

$$2(3(4^2 + 1)) - 2^3$$

$$= 2(3(16 + 1)) - 8$$

$$= 2(3*17) - 8$$

$$= 2*51 - 8$$

$$= 102 - 8$$

$$= 94$$

Hence, the correct answer is C. '94'.

=====

Answer Option 6:

We first simplify the expression inside the parentheses:  $2(3(4^2 + 1)) - 2^3$  becomes  $2(3(16 + 1)) - 8$ . This simplifies further to  $2(3*17) - 8$ , which becomes  $2(51) - 8$  and then  $102 - 8$ . The final value of the expression is \$94\$. So, the correct answer is C. '94'.

=====

Answer Option 7:

First, evaluate inside the first set of parentheses:  $4^2 + 1 = 16 + 1 = 17$ .

Then, multiply by the 3\$ outside the parentheses:  $3*17 = 51$ .

Next, multiply by the 2\$ outside the parentheses:  $2*51 = 102$ .

Lastly, subtract  $2^3 = 8$  from \$102\$:  $102 - 8 = 94$ . Final answer: C.

=====

Answer Option 8:

The order of operations, often remembered by the acronym PEMDAS, guides us in what order to perform operations. It stands for Parentheses, Exponents, Multiplication and Division (from left to right), Addition and Subtraction (from left to right).

Following the order of operations, first calculate the value inside the parenthesis,  $4^2 + 1 = 17$ . Then, substitute it back to the expression to get  $2(3*17) - 2^3$ , which simplifies to  $2*51 - 2^3$ , then  $102-8$  and finally gives \$94\$. Final answer: C

=====

Answer Option 9:

The first step is to compute the value under the innermost parentheses:  $4^2 + 1 = 16 + 1 = 17$ . Substituting back into the expression gives  $2(3(17)) - 2^3$ .

Calculating the value within the next set of parentheses gives:  $3(17) = 51$ . Substituting back into the expression gives  $2(51) - 2^3$ .

Calculating the value within the parentheses gives:  $2(51) = 102$ . Substituting back into the expression gives  $102 - 2^3$ .

Finally, calculating the remaining operations gives:  $102 - 8 = 94$ .

So the value of the expression is 94. Final answer: C

\*\*\*\*\*



Question 45:

Gwen wrote the number pattern below on a piece of paper. 1, 5, 9, 13 What are the next two terms in Gwen's pattern?, A. '15, 17', B. '15, 19', C. '17, 19', D. '17, 21'

=====

Answer Option 1:

The pattern increases by 4 each time.  $13 + 4 = 17$  and  $17 + 4 = 21$ . Therefore, the next two terms are '17, 21'. Final answer: D.

\*\*\*\*\*

Answer Option 2:

The pattern increases by 4 each time. So, the next two terms would be  $13+4=17$  and  $17+4=21$ . Final answer: D

\*\*\*\*\*

Answer Option 3:

The pattern Gwen wrote is an arithmetic sequence where each term increases by 4 from the previous term. Therefore, the next two terms in Gwen's pattern would be  $13 + 4 = 17$  and  $17 + 4 = 21$ . Final

Answer: D

\*\*\*\*\*

Answer Option 4:

From the given pattern, we can see that each term increases by 4 from the previous term. Therefore, the next two terms would be  $13 + 4 = 17$  and  $17 + 4 = 21$ . Final answer: D. '17, 21'

\*\*\*\*\*

Answer Option 5:

The pattern is increasing by 4 each time.  $1 + 4 = 5$ ,  $5 + 4 = 9$ ,  $9 + 4 = 13$ ,  $13 + 4 = 17$ ,  $17 + 4 = 21$ . So, the next two terms are 17 and 21. Final Answer: D

\*\*\*\*\*

Answer Option 6:

Gwen's pattern is increasing by 4 each time. The next term after 13 would be  $13 + 4 = 17$ , and the term after that would be  $17 + 4 = 21$ . So, the next two terms in Gwen's pattern are '17, 21'. Final Answer: D

\*\*\*\*\*

Answer Option 7:

The difference between consecutive terms in the pattern is 4 ( $5-1=4$ ,  $9-5=4$ ,  $13-9=4$ ). So, the next term would be  $13+4=17$ , and the term after that would be  $17+4=21$ . Therefore, the next two terms in the pattern are 17 and 21. Final Answer: D

\*\*\*\*\*

Answer Option 8:

The given pattern appears to be increasing by 4 each time. So, the next term after 13 would be  $13 + 4 = 17$  and the term after that would be  $17 + 4 = 21$ . Thus, the next two terms in the pattern are 17 and 21.

Final answer: D

\*\*\*\*\*

Answer Option 9:

The visible pattern in the sequence is that each number increases by 4 from the previous number ( $5-1=4$ ,  $9-5=4$ ,  $13-9=4$ ). Therefore, the next two terms will also be greater by 4 from their preceding terms.

Adding 4 to the last given term (which is 13), we get  $13+4=17$ . Adding 4 again, we get  $17+4=21$ . Thus, the next two terms in Gwen's pattern are '17, 21'. Final answer: D.

\*\*\*\*\*

Question 46:

'If 3 cans of pears cost \$2.37 how many cans of pears can you buy for \$9.48?', A. '3 cans', B. '12 cans', C. '36 cans', D. '13 cans'

=====

Answer Option 1:

First, find the cost of one can of pears by dividing the total cost by the number of cans:  $\$2.37 \div 3 = \$0.79$ . Then divide the total amount of money available by the cost per can to find the number of cans:  $\$9.48 \div 0.79 = 12$ . Final answer: B. '12 cans'

=====

Answer Option 2:

The cost of one can of pears is  $\$2.37 / 3 = \$0.79$ . Therefore, for \$9.48, you can buy  $\$9.48 / 0.79 = 12$  cans. Final answer: B. '12 cans'

=====

Answer Option 3:

The cost of one can of pears is  $\$2.37/3 = 0.79$ . So, for \$9.48, you can buy  $\$9.48/0.79 = 12$  cans of pears. Final Answer: B. '12 cans'

=====

Answer Option 4:

The cost of one can of pears is  $\$2.37/3 = \$0.79$ . Therefore, for \$9.48, you can buy  $\$9.48/0.79 = 12$  cans of pears. Final Answer: B. '12 cans'

=====

Answer Option 5:

The cost of 1 can of pear is  $\$2.37/3 = 0.79$ . So for \$9.48, you can buy  $\$9.48/0.79 = 12$  cans of pears. Final answer: B. '12 cans'

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Answer Option 6:

Given that 3 cans of pears cost \$2.37, one can of pear would cost  $\$2.37/3 = \$0.79$  (rounded to the nearest cent). So for \$9.48, you can buy  $\$9.48/\$0.79 = 12$  cans (rounded to the nearest whole number).

Final answer: B.

=====

Answer Option 7:

To find the number of cans you can buy for \$9.48, you first need to determine the cost of a single can of pears. This is done by dividing the total cost of the 3 cans (\$2.37) by the number of cans (3). This gives you a single can cost of approximately \$0.79. To find out how many cans you can buy for \$9.48, you then divide \$9.48 by the cost of a single can (\$0.79). This gives you approximately 12 cans. Therefore, you can buy about 12 cans of pears for \$9.48. Final answer: B

=====

Answer Option 8:

First, find out how much 1 can of pears costs by dividing the total cost by the number of cans:  $\$2.37/3 = 0.79$ . Then, divide the total amount of money you have by the cost of one can to find out how many cans you can buy:  $\$9.48/0.79 = 12$  cans. Final Answer: B.

=====

Answer Option 9:

To determine how many cans you can buy for \$9.48, first find the price per can of pears. The price per can is  $\$2.37/3 = \$0.79$  per can. Then divide the total amount of money, \$9.48, by the price per can, \$0.79.  $\$9.48/\$0.79$  is approximately 12. Therefore, you can buy 12 cans of pears for \$9.48. Final answer: B. '12 cans'

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Question 47:

'Order from greatest to least: 3, 3 and 1 over 8, 3.8, 3.18.', A. '3.18, 3 and 1 over 8, 3.8, 3', B. '3, 3 and 1 over 8, 3.18, 3', C. '3.8, 3 and 1 over 8, 3.18, 3', D. '3.8, 3.18, 3 and 1 over 8, 3'

=====

Answer Option 1:

The numbers in decimal form are: 3.80, 3.125, 3.18, and 3.00. Putting them in order from greatest to least we get: 3.8, 3.18, 3 and 1 over 8, 3. The final answer is D.

\*\*\*\*\*

Answer Option 2:

3.8 is the largest, followed by 3.18. The fraction 3 and 1 over 8 is equivalent to 3.125, which is larger than 3. So, the order from greatest to least is: 3.8, 3.18, 3 and 1 over 8, 3. Final answer: D

\*\*\*\*\*

Answer Option 3:

First, we must understand that "3 and 1 over 8" is the same as "3.125". Now we can compare all the numbers:

3.8

3.18

3.125

3

So the correct order from greatest to least is: 3.8, 3.18, 3 and 1/8, 3. Final answer: D.

\*\*\*\*\*

Answer Option 4:

To order the numbers from greatest to least, we compare the decimals.

3.8 is the largest number. Next, 3.18 is larger than 3 and  $3 + \frac{1}{8}$ . 3 and  $3 + \frac{1}{8}$  are equal to each other. Therefore, the order from greatest to least is 3.8, 3.18, 3 and 1 over 8, 3.

Final answer: D.

\*\*\*\*\*

Answer Option 5:

The numbers in decimal form are 3, 3.125, 3.8, and 3.18. It is clear that 3.8 is the greatest and 3 is the smallest. The other two numbers, 3.125 and 3.18, are close but 3.18 is greater. So, from greatest to least, the numbers are 3.8, 3.18, 3.125 (which is 3 and 1 over 8), and 3. Hence, the correct answer is D. '3.8, 3.18, 3 and 1 over 8, 3'.

\*\*\*\*\*

Answer Option 6:

3 and 1 over 8 equals 3.125. Now, we need to order the numbers: 3, 3.125, 3.8, and 3.18. From greatest to least, the order is 3.8, 3.18, 3.125, and 3. So, the correct answer is D. '3.8, 3.18, 3 and 1 over 8, 3'

\*\*\*\*\*

Answer Option 7:

To compare these numbers, it's helpful to write them all as decimals: 3, 3.125, 3.8, 3.18. Now we can easily see that 3.8 is the greatest, followed by 3.18, then 3.125, and finally 3. So, the order from greatest to least is: 3.8, 3.18, 3 and 1 over 8, 3. Final Answer: D

\*\*\*\*\*

Answer Option 8:

Converting all numbers to decimal form, 3 remains as 3, 3 and 1 over 8 becomes 3.125, 3.8 remains as 3.8, and 3.18 remains as 3.18. Comparing these, we see the order from greatest to least is 3.8, 3.18, 3.125, and 3. Thus, the correct answer is D. '3.8, 3.18, 3 and 1 over 8, 3'. Final Answer: D

\*\*\*\*\*

Answer Option 9:

First off, it's easy to see that 3.8 is the greatest number. The fraction "3 and 1 over 8" is equivalent to 3.125. When compared to the decimal 3.18, 3.125 is smaller. The number 3 is obviously the smallest of the four. So, the correct order is 3.8, 3.18, 3 and 1 over 8, 3. Final answer: D

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Question 48:

'Compute  $22 / 2 + 9$ .' A. '10', B. '11', C. '20', D. '2'

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Answer Option 1:

The expression  $22 / 2 + 9$  equals  $11 + 9$ , which is 20.

So, the final answer is C. '20'.

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Answer Option 2:

The answer is  $22 / 2 + 9 = 11 + 9 = 20$ . So, the final answer is C. '20'.

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Answer Option 3:

Dividing 22 by 2 results in 11, and by adding 9 to that we get 20, so the final answer is 20. Final Answer: C

=====

Answer Option 4:

Using order of operations (PEMDAS/BODMAS which stands for Parentheses/Brackets, Exponents/Orders, Multiplication and Division, Addition and Subtraction), division should be performed before addition.

So, we first divide 22 by 2 to get 11, and then add 9 to get 20.

The final answer is: C. '20'

=====

Answer Option 5:

The division operation comes first, according to the order of operations (parentheses, exponents, multiplication and division, addition and subtraction). So we first compute  $22 / 2 = 11$ , then we add 9, getting  $11 + 9 = 20$ . So the correct answer is C. 20.

=====

Answer Option 6:

The expression  $22 / 2 + 9$  is calculated by first doing the division and then the addition due to the order of operations (also known as BIDMAS/BODMAS or PEMDAS). The division  $22 / 2$  gives 11. Adding 9 to this gives a final result of 20. Final answer: C.

=====

Answer Option 7:

22 divided by 2 is 11, and 11 plus 9 is 20. So, the answer is 20. Final answer: C.

=====

Answer Option 8:

The correct calculation would be  $(22 / 2) + 9 = 11 + 9 = 20$ . So, the correct answer is C. '20'.

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Answer Option 9:

First, perform the division: 22 divided by 2 is 11. Then, add 9 to 11, which is 20. Therefore, 22 divided by 2 plus 9 is 20. Final answer: C

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Question 49:

The population of a certain city is 836,527. What is the population of this city rounded to the nearest ten thousand?, A. '800,000', B. '830,000', C. '836,000', D. '840,000'

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Answer Option 1:

The population of the city rounded to the nearest ten thousand is '840,000'. Final Answer: D

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Answer Option 2:

The population rounded to the nearest ten thousand is '840,000'. Final answer: D

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Answer Option 3:

The population of the city rounded to the nearest ten thousand is '840,000'. Final Answer: D

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Answer Option 4:

The population of the city rounded to the nearest ten thousand is 840,000. Final Answer: D

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Answer Option 5:

The population rounded to the nearest ten thousand is '840,000'. Final Answer: D.

\*\*\*\*\*

Answer Option 6:

The population of the city rounded to the nearest ten thousand is 840,000. Final Answer: D

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Answer Option 7:

The ten thousands digit in 836,527 is 3 and the thousands digit is 6. Since 6 is greater than or equal to 5, we round up. So, the population rounded to the nearest ten thousand is 840,000. Final Answer: D

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Answer Option 8:

The population 836,527 is over halfway between 830,000 and 840,000. So, when rounding to the nearest ten thousand, the population would be rounded up to 840,000. Final Answer: D

\*\*\*\*\*

Answer Option 9:

The ten thousands place in 836,527 is 3 and the thousands place is 6. Since 6 is greater than or equal to 5, we round up the ten thousands place to 4 and get 840,000. Therefore, 836,527 rounded to the nearest ten thousand is 840,000. Final answer: D

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Question 50:

'Find the product of  $5 \bullet (-9)$ .' A. '14', B. '-4', C. '45', D. '-45'

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Answer Option 1:

The product of 5 and -9 is -45. Final answer: D

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Answer Option 2:

The product of 5 and -9 is -45. Final answer: D

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Answer Option 3:

The product of 5 and -9 is -45. Final answer: D

\*\*\*\*\*

Answer Option 4:

The product of 5 and -9 is -45. So, the correct answer is D. '-45'.

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Answer Option 5:

The product of 5 and -9 is -45. Final answer: D

\*\*\*\*\*

Answer Option 6:

The product of 5 and -9 is -45. Final answer: D.

\*\*\*\*\*

Answer Option 7:

The product of 5 and -9 is -45. Final answer: D

\*\*\*\*\*

Answer Option 8:

The product of 5 and -9 is -45. So, the final answer is D.

\*\*\*\*\*

Answer Option 9:

The product of 5 and -9 is -45. So, the final answer is D. -45.

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