

For each question, write what the new total percentage would be in both percent and decimal form

- | | |
|-----------------|------------------|
| 1. 20% discount | 2. 3% increase |
| 3. 15% tip | 4. 3.6% decrease |
| 5. 43.9% profit | 6. 33% sale |

Write an expression to model each situation, then find the solution.

7. Mr. Jones bought a car for \$28,000. He sold the car and made a profit of 15%. How much did he sell the car for?
8. A computer store has a computer that costs \$900. They discount it 33%. How much does the computer cost now?
9. A manufacturing company increased its staff by 6.5%. They started with 480 staff members. How many staff members do they have now?
10. Bella has 28 Skylander figurines. She decides to sell off 35% of them. How many does she have now?

11. Smith's has cereal they sell for \$2.25. They decide to increase the price 20%. How much does the cereal cost now?

12. Rebecca bought 4 pairs of socks for \$4.99 each and received a 20% discount. What was her total cost before tax?

13. Hayden bought 4 tickets to a football game online for \$102. The online service fee is 5%. How much did he spend on tickets?

14. Traci buys 4 movies at Great Buy for \$8.49 each. She received a 20% discount. She paid \$6.72 in tax. How much was her total cost?

15. Jordan invests his money into a 1-year certificate of deposit (CD). After the one year his money has increased 3.76%. If he invested \$956, how much money does he have now?

16. Shelby purchases a new car for \$13000. She then buys insurance which costs an additional 12%. How much did the car cost her?

17. You have a swamp with 7 alligators on it. You hear that the number of alligators can triple every year.
- How many will you have in 2 years? In 10 years?
 - Write a rule that would calculate how many alligators the swamp will have after any number of years. **Write your equation in two equivalent ways.**
18. Which of the following expressions would show a rabbit population starting with 3 rabbits, doubling 4 times?
- A. $4 \cdot 2^3$ B. $3 \cdot 4^2$ C. $4 \cdot 3^2$ D. $3 \cdot 2^4$
19. Which of the following expressions would show an initial population of 25 endangered elephants quadruples each year for five years?
- A. $25 \cdot 5^4$ B. $4 \cdot 25^5$ C. $25 \cdot 4^5$ D. $5 \cdot 25^4$
20. A new tree is growing rapidly. It triples every 10 years. How large will it be in 200 years if it currently is 9 inches tall? **Put your answer in FEET.**
21. John is slowly killing the zombies in his neighborhood. When he began there were 57 zombies. He kills 3 per day. Write an equation that models how many zombies there are as time goes on. **Write your equation in two equivalent ways.**

Determine if the following graphs and tables are linear or exponential or neither. If linear or exponential, write an equation that represents the relationship. Write your equation in two equivalent forms.

22.

x	y
-2	168
1	21
3	5.25
4	2.625

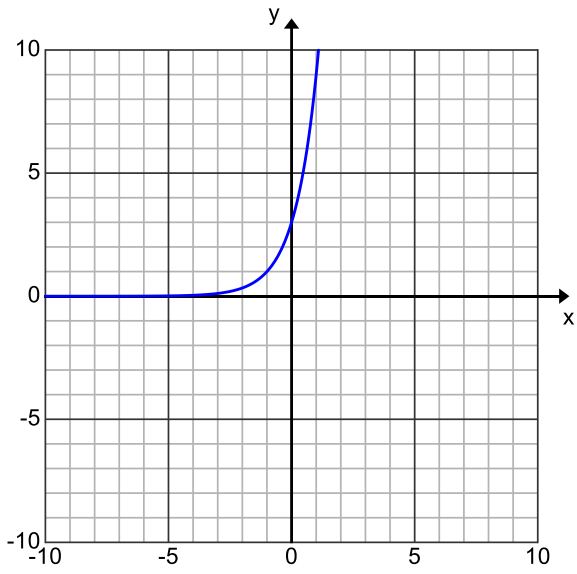
23.

x	y
-1	4.8
1	30
2	75
3	468.75

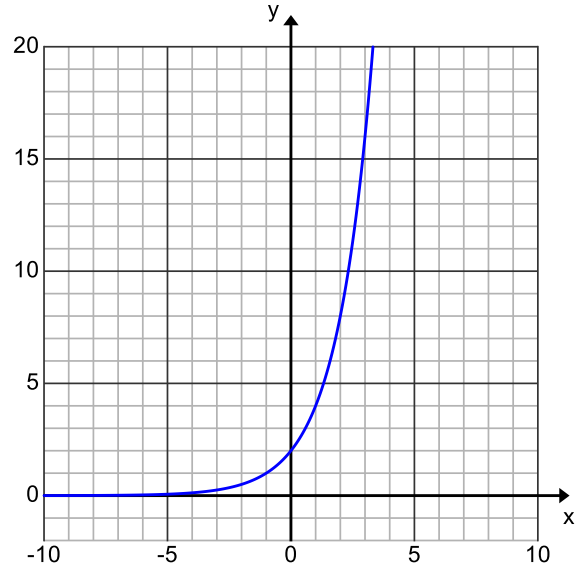
24.

x	y
1	6
3	96
4	384
6	6144
7	24576

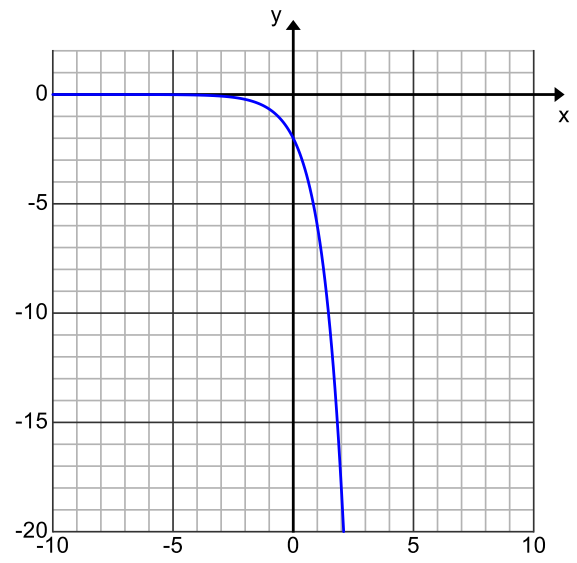
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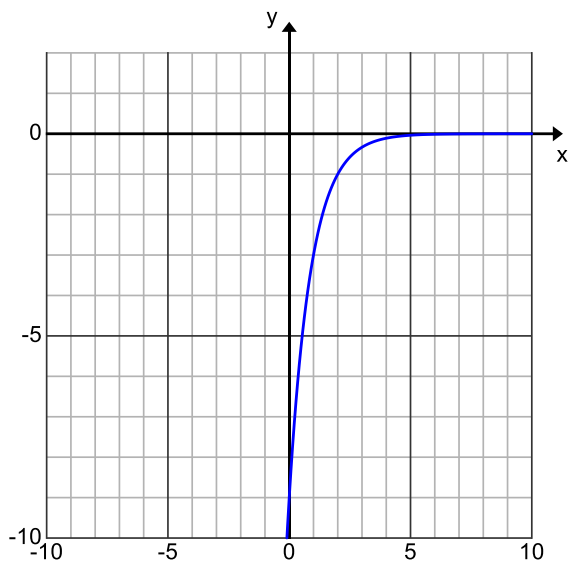
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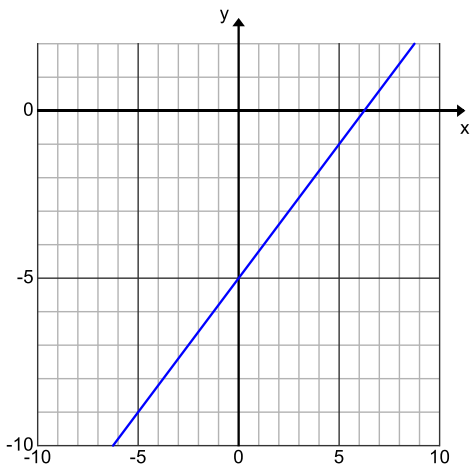
27.



28.



29.



30.

