Hair-Raising Halloween Word Problems

Name: _____ Date: _____

At first you might find these problems unnerving, but in reality they are terrifying!

1. Andy has a number of friends who like dressing as zombies for Halloween. Two years ago, four of his friends dressed as zombies. Last year, that number increased by fifty percent. This year, the number increased by one third over last year. How many of Andy's friends are dressing as zombies this year?

2. Many of Maria's friends do not like molasses candies, so they trade them away for other Halloween loot. Since Maria likes molasses candy, she traded away six bags of chips, ten candy bars and a dozen suckers and got an average of three and a half molasses candies for each item. How many molasses candies did she get in trade?

3. Nathaneal couldn't remember exactly how many cupcakes Haley and Virgil made for the Halloween party, but he did remember that all together Haley, Virgil and he had made one hundred fifty-six cupcakes. He also remembered that he and Haley had made one hundred ten and he and Virgil had made ninety-four. How many did each person make?

4. Rolando made two dozen ten inch cubes out of wood for the Halloween dance and put a strip of fluorescent tape on each edge of each cube, so they would light up under the black lights. How many feet of tape did he need for all the cubes?

5. Mrs. Gibbs and her husband put all of their spare change into a monstery bank (because it is shaped like a monster, not a pig, or it would have been a piggy bank) throughout the year. At Halloween, she donates all the change to the local homeless shelter, but not before her sixth grade students help to count it all. This year, they counted one thousand three hundred fifty-two quarters, nine hundred eighty-five dimes, six hundred forty-three nickels and six hundred thirty-five pennies. How much did Mrs. Gibbs donate this year?

6. Micah and Lewis went trick-or-treating. Micah started at 6:45 pm and Lewis started at 7:05 pm. When Micah finished at 8:15 pm, he had visited one hundred fifty houses. When Lewis finished at 8:45 pm, he had visited one hundred forty houses. They spoke on the phone at 9:15 pm to compare notes. Did Micah or Lewis spend longer trick-or-treating? By how much? Which one had a younger brother with them?

7. Elva's older sister told her that her chance of getting chocolate while trick-or-treating was about one in four. After she was done for the night, Elva tallied up her results and found she had ninety-three chocolate items and two hundred seventy-five items that weren't chocolate. According to these results, was Elva's sister correct? If not, what is the correct ratio?

8. Three witches were making a brew and needed to triple their recipe. The original recipe called for $1\frac{1}{3}$ cups of bug splatter, $2\frac{1}{4}$ cups of sardines, $\frac{3}{4}$ of a cup of dirty dish water and $\frac{2}{3}$ of a cup of moldy asparagus. What quantities should they use for a triple batch?

9. If each bat eats eight hundred bugs per hour for five hours per night, how many bugs would a colony of fifty bats eat in a week?

10. Celina's family grows pumpkins and sells them every day in October. Last October they sold eighty percent of their pumpkins at three dollars a piece and made an average of about two hundred seventy-one dollars per day. How many pumpkins did they grow?

11. What percentage of the letters is the letter g in, "Four ghastly ghouls googled googols wearing green goggles?" What percentage is the letter o?

12. The ghosts in the haunted house needed to buy more cobwebs, but how many? There were already forty-five cobwebs, but the ghosts wanted nine cobwebs in every room and twenty-five in the large hallway downstairs and twenty in the large hallway upstairs. If the haunted house had twenty-five rooms, how many more cobwebs did they need to buy? And where do you buy cobwebs anyway?

13. A spider made a perfectly octagonal web. The innermost octagon had two centimeter sides and the outermost octagon had twenty centimeter sides. Each octagon in between added one and a half centimeters to the side measurements. What is the perimeter of the sixth octagon from the center? Counting from the center, which octagon is the outermost one?

14. For the skeleton dance, Leif needed to make a playlist of songs. Each song was about three and a quarter minutes long. He needed a playlist that lasted four hours and thirty minutes. How many songs does he need?

15. Every year Celeste and Trent make pumpkin pies for the Halloween bake sale. Each pie requires about three-quarters of a pound of pumpkin and each pumpkin usually gives about one kilogram. How many pumpkins will they need to make twenty-five pies?

16. Mara brought her sister to four streets for Halloween. Each street had an average of thirty-five houses. Two of the streets had thirty-six houses and one of the streets had twenty-seven houses. How many houses were on the fourth street?

17. According to Universe Today, it takes twenty-nine days, twelve hours, forty-four minutes and three seconds to get from one full moon to the next. A werewolf was concerned that this might get in the way of his human birthday party on the eighth of June. As you know, werewolves change into their wolf form during full moons. If the last full moon was on the fourteenth of November at 20:30:15, will there be a full moon on the eighth of June?

18. Vlad (the vampire) wanted to line the inside of his coffin bed with purple cloth. He measured the inside height, length and width to be twenty-three inches, eighty-four inches and twenty-eight inches. He also noted that it was a rectangular prism. The purple cloth is sold by the foot in sixty inch wide pieces. How many feet of cloth does he need to buy?

Hair-Raising Halloween Word Problems Answers

Name: _____ Date: _____

At first you might find these problems unnerving, but in reality they are terrifying!

1. Andy has a number of friends who like dressing as zombies for Halloween. Two years ago, four of his friends dressed as zombies. Last year, that number increased by fifty percent. This year, the number increased by one third over last year. How many of Andy's friends are dressing as zombies this year? $4 \times 1.5 \times (\frac{4}{3}) = 8$ Last year there were 6 zombies and this year there were 8.

2. Many of Maria's friends do not like molasses candies, so they trade them away for other Halloween loot. Since Maria likes molasses candy, she traded away six bags of chips, ten candy bars and a dozen suckers and got an average of three and a half molasses candies for each item. How many molasses candies did she get in trade? $(6 + 10 + 12) \times 3.5 = 98$

3. Nathaneal couldn't remember exactly how many cupcakes Haley and Virgil made for the Halloween party, but he did remember that all together Haley, Virgil and he had made one hundred fifty-six cupcakes. He also remembered that he and Haley had made one hundred ten and he and Virgil had made ninety-four. How many did each person make? $N+H = 110$ so $H = 110-N$ and $V = 94 - N$. Substitute into $N + H + V = 156$ results in $N + 110 - N + 94 - N = 156$ which simplifies to $N = 48$ Substitute into the first equations to get $H = 62$ and $V = 46$

4. Rolando made two dozen ten inch cubes out of wood for the Halloween dance and put a strip of fluorescent tape on each edge of each cube, so they would light up under the black lights. How many feet of tape did he need for all the cubes? There are 12 edges on a cube so each cube requires $10 \times 12 = 120$ inches of tape. For 24 cubes, $120 \times 24 = 2880$ inches of tape are needed which is $2880 \div 12 = 240$ feet of tape.

5. Mrs. Gibbs and her husband put all of their spare change into a monstery bank (because it is shaped like a monster, not a pig, or it would have been a piggy bank) throughout the year. At Halloween, she donates all the change to the local homeless shelter, but not before her sixth grade students help to count it all. This year, they counted one thousand three hundred fifty-two quarters, nine hundred eighty-five dimes, six hundred forty-three nickels and six hundred thirty-five pennies. How much did Mrs. Gibbs donate this year? $(1352 \times 0.25) + (985 \times 0.10) + (643 \times 0.05) + (635 \times 0.01) = 338 + 98.5 + 32.15 + 6.35 = 475$ Mrs. Gibbs and her husband donated $475.00 to the homeless shelter this year.

6. Micah and Lewis went trick-or-treating. Micah started at 6:45 pm and Lewis started at 7:05 pm. When Micah finished at 8:15 pm, he had visited one hundred fifty houses. When Lewis finished at 8:45 pm, he had visited one hundred forty houses. They spoke on the phone at 9:15 pm to compare notes. Did Micah or Lewis spend longer trick-or-treating? By how much? Which one had a younger brother with them? Micah went from 6:45 pm to 8:15 pm which is 1 hour and 30 minutes. Lewis went from 7:05 pm to 8:45 pm which is 1 hour and 40 minutes. Lewis spent

longer trick-or-treating by 10 minutes. Note that Lewis did go to 10 fewer houses which could have been the result of many factors which might include having a younger brother with him. The last question could have many answers as long as there is a rationale given.

7. Elva's older sister told her that her chance of getting chocolate while trick-or-treating was about one in four. After she was done for the night, Elva tallied up her results and found she had ninety-three chocolate items and two hundred seventy-five items that weren't chocolate. According to these results, was Elva's sister correct? If not, what is the correct ratio? Using a part-to-part ratio, Elva had 93:275 chocolate to other items which is about 1:3. That may not be exactly what Elva's sister meant though since if you add up all the items, there are 368 items and 93 of them were chocolate items, so the ratio would be 93:368 which is about 1:4.

8. Three witches were making a brew and needed to triple their recipe. The original recipe called for $1\frac{1}{3}$ cups of bug splatter, $2\frac{1}{4}$ cups of sardines, $\frac{3}{4}$ of a cup of dirty dish water and $\frac{2}{3}$ of a cup of moldy asparagus. What quantities should they use for a triple batch? Bug splatter: $1\frac{1}{3} \times 3 = 3\frac{3}{3} = 4$; Sardines: $2\frac{1}{4} \times 3 = 6\frac{3}{4}$; Dish water: $\frac{3}{4} \times 3 = \frac{9}{4} = 2\frac{1}{4}$; Asparagus: $\frac{2}{3} \times 3 = \frac{6}{3} = 2$

9. If each bat eats eight hundred bugs per hour for five hours per night, how many bugs would a colony of fifty bats eat in a week? $800 \times 5 \times 50 \times 7 = 1{,}400{,}000$

10. Celina's family grows pumpkins and sells them every day in October. Last October they sold eighty percent of their pumpkins at three dollars a piece and made an average of about two hundred seventy-one dollars per day. How many pumpkins did they grow? October has 31 days, so they made $\$271 \times 31 = \$8401$ in one month. Each pumpkin was \$3, so the number of pumpkins they sold was $8401 \div 3 = 2800\frac{1}{3}$. Note they probably didn't sell a third of a pumpkin, the extra third is most likely due to rounding the average daily income, so we'll use 2800 pumpkins as the number sold. In total they grew $2800 \div 0.80 = 3500$ pumpkins.

11. What percentage of the letters is the letter g in, "Four ghastly ghouls googled googols wearing green goggles?" What percentage is the letter o? There are 50 letters in the statement which makes it fairly easy to calculate the percentages. There are 11 g's and 8 o's in the statement. Letter g: $11 \div 50 \times 100 = 22\%$; Letter o: $8 \div 50 \times 100 = 16\%$.

12. The ghosts in the haunted house needed to buy more cobwebs, but how many? There were already forty-five cobwebs, but the ghosts wanted nine cobwebs in every room and twenty-five in the large hallway downstairs and twenty in the large hallway upstairs. If the haunted house had twenty-five rooms, how many more cobwebs did they need to buy? And where do you buy cobwebs anyway? To calculate the number of cobwebs needed, calculate 9 times the number of rooms (25) and add the amounts needed for the hallways (25 and 20) then subtract the number they already have (45). $(9 \times 25) + 25 + 20 - 45 = 225$. The ghosts still need to get 225 cobwebs. Cobwebs are made by house spiders, so they might be able to convince the spiders in the house to make them for free, perhaps by letting some bugs in the house for the spiders to catch.

13. A spider made a perfectly octagonal web. The innermost octagon had two centimeter sides and the outermost octagon had twenty centimeter sides. Each octagon in between added one and a half centimeters to the side measurements. What is the perimeter of the sixth octagon from the center? Counting from the center, which octagon is the outermost one? The innermost octagon had 2 cm sides, so the second would have $2 + 1.5 = 3.5$ cm sides, the third, $2 + 2(1.5) = 5$ cm sides. Counting from the center, any of the octagons would have $2 + (n-1)(1.5) = 2 + 1.5n - 1.5 = 1.5n + 0.5$ cm sides. The sixth side therefore would have $1.5(6) + 0.5 = 9.5$ cm sides. To figure out which octagon the innermost side is we'll use, $1.5(n) + 0.5 = 20$, so $1.5(n) = 19.5$ and $n = 13$. Of course, students could also just draw and label a picture.

14. For the skeleton dance, Leif needed to make a playlist of songs. Each song was about three and a quarter minutes long. He needed a playlist that lasted four hours and thirty minutes. How many songs does he need? Converting 4 hours and 30 minutes to minutes results in $4 \times 60 + 30 = 270$ minutes. To figure out the number of songs needed, divide the time by the length of each song: $270 \div 3.25 = 84$ (rounded up). Rounding up is needed or there might be a bit of a quiet period at the end of the dance. Leif would probably be best advised to gather a few extra songs just in case.

15. Every year Celeste and Trent make pumpkin pies for the Halloween bake sale. Each pie requires about three-quarters of a pound of pumpkin and each pumpkin usually gives about one kilogram. How many pumpkins will they need to make twenty-five pies? Pumpkin needed: $\frac{3}{4} \times 25 = 18.75$ pounds. Convert to kilograms (or convert the other way): $18.75 \times 0.454 = 8.5125$. So, if about 8.5 kg of pumpkin is needed, and each pumpkin gives about 1 kg, then it looks like Celeste and Trent are going to need 9 pumpkins.

16. Mara brought her sister to four streets for Halloween. Each street had an average of thirty-five houses. Two of the streets had thirty-six houses and one of the streets had twenty-seven houses. How many houses were on the fourth street? There were $35 \times 4 = 140$ houses all together. The fourth street had $140 - 36 - 36 - 27 = 41$ houses.

17. According to Universe Today, it takes twenty-nine days, twelve hours, forty-four minutes and three seconds to get from one full moon to the next. A werewolf was concerned that this might get in the way of his human birthday party on the eighth of June. As you know, werewolves change into their wolf form during full moons. If the last full moon was on the fourteenth of November at 20:30:15, will there be a full moon on the eighth of June? The werewolf will probably be in trouble if his birthday is in a leap year as the full moon will occur at 13:38:36 on June 8. If it is not a leap year, then it will occur on June 9 after his birthday party. Here are the dates and times of each full moon in between for a non-leap year: 2020-11-14 20:30:15 | 2020-12-14 09:14:18 | 2021-01-12 21:58:21 | 2021-02-11 10:42:24 | 2021-03-12 23:26:27 | 2021-04-11 12:10:30 | 2021-05-11 00:54:33 | 2021-06-09 13:38:36

18. Vlad (the vampire) wanted to line the inside of his coffin bed with purple cloth. He measured the inside height, length and width to be twenty-three inches, eighty-four inches and twenty-

eight inches. He also noted that it was a rectangular prism. The purple cloth is sold by the foot in sixty inch wide pieces. How many feet of cloth does he need to buy? The diagram shows how Vlad could best use the material without too much waste. He needs $(84+84+23)\div 12 = 15\frac{11}{12}$ feet of cloth, but would have to buy 16 feet since it is sold by the foot.