## Year 7 Worksheet 3: Percentages

Question 1: Converting between fractions, decimals, and percentages.

| 1 | Lisa scored $85 \%$ on her math test. What is her score as a decimal? |
| :--- | :--- |
| 2 | If $3 / 5$ of a pizza is left, what percentage of the pizza remains? |
| 3 | Convert 0.2 to a fraction in its simplest form. |
| 4 | A shirt originally priced at $\$ 40$ is on sale for $25 \%$ off. What is the <br> sale price? |
| 5 | Express $75 \%$ as a decimal. |


| 6 | If $2 / 3$ of a class passed a test, what percentage failed? |
| :--- | :--- |
| 7 | Sarah spent $40 \%$ of her allowance. How much money does she <br> have left if her allowance was \$50? |
| 8 | Convert 0.625 to a percentage. <br> 9 <br> 10 <br> A recipe calls for $1 / 4$ cup of sugar. If you want to make half the <br> recipe, how much sugar do you need? <br> Emma wants to save $20 \%$ of her monthly allowance. If her |

Question 2: Calculating percentages of quantities.

| 1 | If a store has a $30 \%$ off sale, how much will you save on a $\$ 60$ pair <br> of shoes? |
| :--- | :--- |
| 2 | Mary scored $85 \%$ on her science test. If the test had 40 questions, <br> how many did she answer correctly? |
| 3 | A laptop originally costs $\$ 800$, but it's on sale for $15 \%$ off. What is <br> the sale price? |
| 4 | If you receive a $10 \%$ tip on a $\$ 50$ restaurant bill, how much is the <br> tip? |
| 5 | A soccer team won $80 \%$ of their games this season. If they played <br> 20 games, how many did they lose? |


| 6 | A shirt that originally cost $\$ 25$ is now $40 \%$ off. What is the final <br> price? |
| :--- | :--- |
| 7 | You need to find 20\% of 250 to calculate a discount. What is the <br> discount amount? |
| 8 | A school's fundraising goal is $\$ 5,000$. If they've already raised $60 \%$, <br> how much more do they need? |
| 9 | If you received a $25 \%$ discount on a $\$ 120$ video game console, how <br> much did you pay? <br> A class of 30 students, $60 \%$ of whom are girls, is going on a field <br> trip. How many boys are going? |

Question 3: Answer the following.

| 1 | A store is offering a 20\% discount on a \$150 item. If you also have a <br> $10 \%$ off coupon, what is the final price in dollars? |
| :--- | :--- |
| 2 | Sarah wants to spend only 15\% of her monthly income on <br> entertainment, which is $\$ 240$. What is her monthly income in <br> dollars? |
| 3 | Jenny invested \$5,000 in a stock, and it increased by 15\% in the <br> first year. In the second year, it decreased by 10\%. What is the <br> value of her investment at the end of the second year? |
| 4 | A school is organizing a charity drive. If 45\% of the students <br> participate, and there are 500 students in total, how many students <br> are not involved? |


| 5 | You want to save $25 \%$ of your monthly allowance of $\$ 80$. How <br> much money will you save in a year? |
| :--- | :--- |
| 6 | A garden is divided into two sections. If one section is $30 \%$ larger <br> than the other, and the smaller section is 120 square meters, what <br> is the size of the larger section in square meters? |
| 7 | A car dealership is offering $12 \%$ off the original price of a car that <br> costs \$28,000. What is the sale price? |
| 8 | Your teacher allows you to retake a test you scored $60 \%$ on. If you <br> want to achieve a final score of $80 \%$, how many points do you need <br> to earn on the retake out of $100 ? ~ T h e ~ f i n a l ~ s c o r e ~ i s ~ t h e ~ a v e r a g e ~ o f ~$ <br> tests. |


| 9 | A company has a workforce of 500 employees. In a survey, it was <br> found that $30 \%$ of the employees are fluent in both English and <br> Spanish, and $40 \%$ of the employees are fluent in English. How <br> many employees are fluent in English but not in Spanish? |
| :--- | :--- |
| 10 | A store is selling a product for $\$ 75$, which is $25 \%$ off the original <br> price. If you also have a 15\% discount coupon, what is the final <br> price in dollars? |

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## Answer Key

Question 1: Answer the following.

| 1 | Lisa scored $85 \%$ on her math test. What is her score as a decimal? <br> Answer: 0.85 |
| :--- | :--- |
| 2 | If $3 / 5$ of a pizza is left, what percentage of the pizza remains? <br> Answer: $60 \%$ |
| 3 | Convert 0.2 to a fraction in its simplest form. <br> Answer: $1 / 5$ |
| 4 | A shirt originally priced at $\$ 40$ is on sale for $25 \%$ off. What is the <br> sale price? <br> Answer: $\$ 30$ |
| 5 | Express $75 \%$ as a decimal. <br> Answer: 0.75 |
| 6 | If $2 / 3$ of a class passed a test, what percentage failed? <br> Answer: $33.33 \%$ (or $1 / 3$ ) |
| 7 | Sarah spent $40 \%$ of her allowance. How much money does she <br> have left if her allowance was $\$ 50 ?$ <br> Answer: $\$ 30$ |
| 8 | Convert 0.625 to a percentage. <br> Answer: $62.5 \%$ |
| 9 | A recipe calls for $1 / 4$ cup of sugar. If you want to make half the <br> recipe, how much sugar do you need? <br> Answer: $1 / 8$ cup |
| 10 | Emma wants to save $20 \%$ of her monthly allowance. If her <br> allowance is $\$ 80$, how much will she save? <br> Answer: $\$ 16$ |

Question 2: Calculating percentages of quantities.

| 1 | If a store has a $30 \%$ off sale, how much will you save on a $\$ 60$ pair <br> of shoes? <br> Answer: $\$ 18$ |
| :--- | :--- |
| 2 | Mary scored $85 \%$ on her science test. If the test had 40 questions, <br> how many did she answer correctly? <br> Answer: 34 questions |
| 3 | A laptop originally costs $\$ 800$, but it's on sale for $15 \%$ off. What is <br> the sale price? <br> Answer: $\$ 680$ |
| 4 | If you receive a $10 \%$ tip on a $\$ 50$ restaurant bill, how much is the <br> tip? <br> Answer: $\$ 5$ |
| 5 | A soccer team won $80 \%$ of their games this season. If they played <br> 20 games, how many did they lose? <br> Answer: 4 games |
| 6 | A shirt that originally cost $\$ 25$ is now $40 \%$ off. What is the final <br> price? <br> Answer: $\$ 15$ |
| 7 | You need to find $20 \%$ of 250 to calculate a discount. What is the <br> discount amount? <br> Answer: 50 |
| 8 | A school's fundraising goal is $\$ 5,000$. If they've already raised $60 \%$, <br> how much more do they need? <br> Answer: $\$ 2,000$ |
| 9 | If you received a $25 \%$ discount on a $\$ 120$ video game console, how <br> much did you pay? <br> Answer: $\$ 90$ |
| 10 | A class of 30 students, $60 \%$ of whom are girls, is going on a field <br> trip. How many girls are going? <br> Answer: 18 girls |

## Question 3: Answer the following.

| 1 | A store is offering a 20\% discount on a \$150 item. If you also have a <br> $10 \%$ off coupon, what is the final price in dollars? <br> Answer: $\$ 110$ |
| :--- | :--- |
| 2 | Sarah wants to spend only $15 \%$ of her monthly income on <br> entertainment, which is $\$ 240$. What is her monthly income in <br> dollars? <br> Answer: $\$ 1,600$ |
| 3 | Jenny invested $\$ 5,000$ in a stock, and it increased by $15 \%$ in the <br> first year. In the second year, it decreased by $10 \%$. What is the <br> value of her investment at the end of the second year? <br> Answer: <br> Value after Year 1 = $\$ 5,000+(0.15 * \$ 5,000)=\$ 5,750$ <br> Value after Year $2=\$ 5,750-(0.10$ * $\$ 5,750)=\$ 5,175$ <br> So, the value of her investment at the end of the second year is <br> $\$ 5,175$. |
| 4 | A school is organizing a charity drive. If $45 \%$ of the students <br> participate, and there are 500 students in total, how many students <br> are not involved? <br> Answer: 275 students |
| 5 | You want to save $25 \%$ of your monthly allowance of $\$ 80$. How much <br> money will you save in a year? <br> Answer: $\$ 240$ |
| 6 | A garden is divided into 2 sections. If one section is $30 \%$ larger than <br> the other, and the smaller section is 120 square meters, what is the <br> size of the larger section in square meters? <br> Answer: 156 square meters |
| 7 | A car dealership is offering $12 \%$ off the original price of a car that <br> costs $\$ 28,000$. What is the sale price? <br> Answer: $\$ 24,640$ |
| 8 | Your teacher allows you to retake a test you scored $60 \%$ on. If you <br> want to achieve a final score of $80 \%$, how many points do you need <br> to earn on the retake out of $100 ?$ The final score is the average of 2 <br> tests. |


|  | Answer: $100 \%$ since $(100+60) / 2=80$ |
| :--- | :--- |
| 9 | A company has a workforce of 500 employees. In a survey, it was <br> found that $30 \%$ of the employees are fluent in both English and <br> Spanish, and $40 \%$ of the employees are fluent in English. How <br> many employees are fluent in English but not in Spanish? <br> Answer: <br> Fluent in Both $=30 \%$ of $500=0.30 * 500=150$ employees <br> Fluent in English $=40 \%$ of $500=0.40 * 500=200$ employees <br> Fluent in English but Not in Spanish $=200$ employees - 150 <br> employees = 50 employees |
| 10 | A store is selling a product for $\$ 75$, which is $25 \%$ off the original <br> price. If you also have a $15 \%$ discount coupon, what is the final <br> price in dollars? <br> Answer: <br> Intermediate Price $=\$ 75 * 0.75=\$ 56.25$ <br> Final Price $=85 \%$ of $\$ 56.25=0.85 * \$ 56.25=\$ 47.81$ |

