Where applicable, always round to the nearest hundredth.

## Finding a percentage:

- **1.** What percent is 67 of 100?
- 3. What percent is 34 of 50?
- **5.** What percent of 68 is 17?
- **7.** What percent of 264 is 99?
- 9. What percent of 8 is 15?

- **2.** What percent of 100 is 34?
- 4. What percent of 25 is 12?
- **6.** What percent is 55 of 125?
- **8.** What percent is 126 of 84?
- **10.** What percent is 117 of 624?
- 11. In a class of 240 students, 117 are female. What percent of the class are female?
- 12. On a job site of 32 workers, 17 are male. What percent of the workers are male?
- 13. An 80 Liter gas tank is filled with 38 Liters of gas, what percent of the tank is filled?
- 14. In a class of 40 students, 15 are male. What percent of the class are female?

### Percentages of numbers:

- 1. What is 25% of 100?
- **3.** What is 152% of 100?
- **5.** What is 13% of 235?
- **7.** Of 25, what is 90%?
- **9.** Of 28, what is 136%?

- 2. What is 37% of 100?
- **4.** What is 28% of 57?
- **6.** What is 78% of 128?
- **8.** What is 145% of 25?
- **10.** What is 5% of 356?
- 11. A 350 mL beaker is filled with a 12.8% acid solution, how many mL are acid?
- 12. In a class of 320 students, 55% are female, how many of the students are female?
- **13.** A Steel plate is 45% iron. If the total weight of the plate is 500kg, what is the weight of iron?
- 14. In a class of 50 students, 12% are expected to fail. How many students will pass?
- **15.** A bicycle has a listed price of \$349.99. If tax is at 6.9%, what is the tax on the bike? Round to the nearest cent.



### Numbers representing a percentage:

- **1.** 25 is 25% of what number?
- **3.** 30 represents 15% of what number?
- **5.** 300 represents 40% of what number?
- 2. 18 represents 32% of what number?
- **4.** 51 is 75% of what number?
- **6.** 1250 is 12.5% of what number?
- **7.** A company with a branch in Canada has 24% of its employees in Canada. If there are 1500 employees in Canada, how many are there in total?
- **8.** In a Physics class at S.F.U there are 105 men in the class. If this represents 35% of the class, how many students, in total, are in this physics class?
- 9. A car's tank is 30% filled. If the car has 24 liters of fuel, what is the capacity of the tank?
- **10.** A penny is nickel plated with copper. If the copper coating on the penny takes up 45% of the weight of the penny and the copper weighs 0.36 grams, what is the weight of the entire penny?

## Calculating a Percent more or less than a number:

- 1. What is 15% more than 30?
- **3.** What is 125% more than 100?
- **5.** What is 55% less than 256?
- **7.** What is 5% more than 1024?
- **9.** What is 35% less than 356?

- 2. What is 36% less than 100?
- **4.** What is 78% less than 54?
- **6.** What is 99% less than 200?
- **8.** What is 12% more than 5000?
- **10.** What is 85% more than 85?
- **11.** A company that produces cars says that the next model will be 12.5% cheaper than the current model. If the current model costs \$34500, how much will next year's model cost? Round to the nearest cent.
- **12.** If John has 35% more money than Jake, and Jake has \$650 then how much money does John have?
- **13.** An acid solution is 35% acid, the rest is water. If the total amount of liquid is 450mL then how much of the solution is water?
- **14.** An engine manufacturing company claims that their newest engine will produce 25% more horsepower than their current model. If the current model can produce 510 horsepower, how much should the next engine produce?



## Finding the percent more or less of two numbers:

- 1. 100 is what percent more than 50?
- **3.** 37 is what percent more than 25?
- **5.** 75 is what percent less than 150?
- **7.** 702 is what percent less than 864?
- **9.** 5 is what percent more than 4?

- **2.** 78 is what percent less than 100?
- 4. 276 is what percent more than 150?
- **6.** 507 is what percent more than 312?
- **8.** 189 is what percent less than 224?
- 10. 49 is what percent less than 50?
- **11.** Kathrine's weekly salary is currently \$1200. In a month however she expects this to increase to \$1350, what percent more is this?
- **12.** The cost of gas has gone from \$1.50 down to \$0.99. What percent less is the current gas price?
- **13.** The price of the last year's model of a certain motorcycle was \$13280. If the current year's model costs \$12699 what percent less is the current model?
- **14.** Before leaving, Mike had filled up his cars tank to the maximum capacity of 80L. If at the end of a drive mike has 63L left, what percent of the gas did Mike use?

## Finding a number that is some percent more or less:

- 1. 20% more than what number is 30?
- **3.** 12.5% less than what number is 259?
- **5.** 37.5% less than what number is 21?
- **7.** 87.5% more than what number is 2052?
- **9.** 60% more than what number is 533?
- 2. 45% less than what number is 100?
- 4. 20% more than what number is 183?
- **6.** 32% less than what number is 229.5?
- **8.** 72% less than what number is 560?
- **10.** 55% less than what number is 252?
- **11.** The price of a bicycle after a 25% discount is \$679.99. What was the original price? Round to the nearest cent.
- **12.** After a tune up a car produced 5% more horsepower. If the horsepower after the tune up is 525, what was the horsepower before the tune up?
- **13.** The new model of a car is 12% cheaper than the previous model. If the current model costs \$56300, what was the price of the previous model? Round to the nearest cent.
- **14.** After a 7% raise in weekly salary, Matt is now making \$1450 per week. What was Matt's weekly salary before the raise? Round to the nearest cent.



# **Answer Key:**

#### Finding a percentage:

<b>1</b> . 67%	<b>2.</b> 34%	<b>3.</b> 68%	<b>4.</b> 48%
<b>5.</b> 25%	<b>6.</b> 44%	<b>7.</b> 37.5%	<b>8.</b> 150%
<b>9.</b> 187.5%	<b>10.</b> 18.75%	<b>11.</b> 48.75% female	<b>12.</b> 53.125% male
<b>13.</b> 47.5% filled	<b>14.</b> 62.5% female		

### **Percentages of numbers**

1. 25	<b>2</b> . 37	<b>3.</b> 152	<b>4.</b> 15.96
<b>5.</b> 30.55	<b>6.</b> 99.84	<b>7.</b> 22.5	<b>8.</b> 36.25
<b>9.</b> 38.08	<b>10.</b> 17.8	<b>11.</b> 44.8 mL	<b>12</b> . 176 female
<b>13</b> . 225 kg	14. 44 students	<b>15.</b> \$24.15	

### Numbers representing a percentage:

<b>1.</b> 100	<b>2.</b> 56.25	<b>3</b> . 200	<b>4.</b> 68
<b>5.</b> 750	<b>6.</b> 10000	<b>7</b> . 6250	<b>8.</b> 300
		employees	
<b>9.</b> 80 Liters	<b>10.</b> 0.8g		

### Calculating a percent more or less than a number:

<b>1.</b> 34.5	<b>2</b> . 64	<b>3</b> . 225	<b>4.</b> 11.88
<b>5.</b> 115.2	<b>6.</b> 2	<b>7.</b> 1075.2	<b>8.</b> 5600
<b>9.</b> 231.4	<b>10.</b> 157.25	<b>11.</b> \$30187.50	<b>12.</b> \$877.50
<b>13.</b> 292.5 mL	<b>14.</b> 637.5 HP		

### Finding the percent more or less of two numbers:

<b>1</b> . 100%	<b>2</b> . 22%	<b>3.</b> 48%	<b>4.</b> 84%
<b>5.</b> 50%	<b>6.</b> 62.5%	<b>7.</b> 18.75%	<b>8.</b> 15.625%
<b>9</b> . 25%	10. 2%	<b>11.</b> 12.5% more	<b>12</b> . 34% less
<b>13.</b> 4.375% less	<b>14.</b> 21.25% of the		
	gas		

### Finding a number that is some percent more or less:

<b>1</b> . 25	<b>2</b> . 182	<b>3</b> . 296	<b>4.</b> 152.5
<b>5.</b> 33.6	<b>6.</b> 337.5	<b>7.</b> 1094.4	<b>8.</b> 2000
<b>9.</b> 333.125	<b>10</b> . 560	<b>11.</b> \$906.65	<b>12</b> . 500 HP
<b>13.</b> \$63977.27	<b>14.</b> \$1355.14		

