MPM1D ***Review – Percents*** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A percent is a number expressed as a fraction of 100. For example, if I say 32% of the animals are cows, it means that for every 100 animals, 32 of them are cows. If there are 200 animals, there are 64 cows.  
Percents can be expressed using decimals or fractions:

In fact, when doing calculations it is often more convenient to use decimals.

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| 25% of 60 is 15 |
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**1. BASIC PRACTICE**

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| 30 is what percent of 80?  830  So 37.5% | What is 40% of 60? | 20% of a number is 50. What is the number?  ? |
| 15 is what percent of 70? | What is 30% of 120? | 70% of a number 42. What is the number? |
| 40 is what percent of 28? | What is 18% of 80? | 32% of a number 10. What is the number? |

**2. Your friend gives you a box of 150 apples. Unfortunately, some of the apples have gone bad!**

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| If 4% of the apples have gone bad how many apples is this? | If 10 of the apples have gone bad, what percentage is this? | If 12% of the apples have gone bad, how many apples are still good? |

**3. More mixed examples…show your work!**

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| a) Ben has read 75 pages of a 200-page book. What percentage of the book has he read? | b) Gail has $1000 in the bank. She took out $50 to buy school supplies. What percentage of her savings did she take out? |
| **c)**  Your friend sells you a skateboard for 75% of the original price. Your friend paid $120. What do you pay? | d) You eat 40 g of chocolate, which is 30% of the entire chocolate bar. How much did the full chocolate bar weigh? |
| e) Charlie and Lena buy a present for their mother. Charlie spends $10 and Lena spends $15. What percentage of the total did Lena spend? | f) You travel 6 km, which is 80% of the distance to school. What is the full distance to school? |

**4. Yewen bought a sweater that was on sale for 30% off. The sale price of the sweater was $34.97. What was the original price of the sweater? Show your work.**

Note: removing 30% is the same as keeping 70%

**5. Start with the number 100. Increase it by 20%. Then take the answer, and increase it again by 20%. Is this the same as increasing the number 100 by 40%? Explain!**