Name: Key Block:

# Challenges for Assessment 7 - Accelerated 6th Grade

*Calculators Permitted on all Questions*

*For ALL questions, show how you determined your answer.*

## *Challenge Questions*

1. At a local restaurant, Alyssa purchased a lunch for $19.52. He decided to leave an additional 25% tip. If Alyssa gave the waitress $30.00, how much change did he receive?

Tip = $4.88

Total = $24.40

Change = $5.60

2. Jess wants to buy a car. He can get a 20% discount if he waits for next month's sale. If $x$ represents the original cost of the car, which variable expression can be used to determine the sale price of the car? (20% = 0.20)

**A.** $x - 0.20$ **B.** $1.20x$ **C.** $x - 20x$ **D.** $0.80x$

3. Ms. Berman charges $20 per hour for pet sitting. She raises the fee 40%.

a. What is the fraction that corresponds to the fee increase?

4/10 OR 2/5

b. What is Ms. Berman's new hourly wage?

inc = $8 $28

4. Charlotte is a salesperson that wants to earn $3,500 in December. She receives a base salary of $1,400. She also received a 25% commission of her sales. How much will Sophie need to sell in December to meet her goal?

Com = $2,100 $8400

## *Even more challenging...Can you do it?*

5. Allie took her family out to brunch. The bill totaled to $201.60 after 8% sales tax (without tip). How much was the dinner, ~~to the nearest~~ penny, **before tax?**

$186.67

6. In December, the price of a computer increased from \$800 to \$950. Then, in January, the price of the same computer decreased from \$950 to \$800. Haley stated that the percent of increase in December was equal to the percent of decrease in January? Is she correct? Justify your response using mathematics.

NO. % inc = 18.75% % dec. = 15.79%

7. Each bulleted statement describes how the amount of income tax is determined for yearly taxable incomes in different ranges.

- Yearly taxable incomes of \$5,320 or less are taxed at a flat rate of 6%.
- For yearly taxable incomes from \$5,320 to \$31,562, the first \$5,320 is taxed at 6% and any income beyond \$5,320 is taxed at 10%.
- For yearly taxable incomes greater than \$31,562, the first \$5,320 is taxed at 5%, the next \$26,242 is taxed at 10%, and any income beyond \$31,562is taxed at 20%.

**Part A:** Your yearly taxable income is \$34,292. What is the dollar amount taken out for taxes based on your taxable income?

5,320 @ 5% = \$266.00
26,242 @ 10% = \$2,624.20
2730 @ 20% = + \$546.00
\$3436.20

**Part B:** Mr. Rivera's taxable income is \$15 each hour before taxes are taken out. Mr. Rivera worked a total of 40 hours each week for 35 weeks. What is the dollar amount, to the nearest dollar, taken out for taxes based on Mr. Rivera's taxable income?

\$15 per hr. × 40 hr per wk × 35 wks = \$21,000

5,320 @ 6% = \$ 319.20
15,680 @ 10% = + \$1568.00
\$1,887.20