

Edulastic

EE Review

Collection: Private

Created by Cynthia Faulkner

Q1: Simplify the expression:

$$\frac{1}{5}(10 + 20d) = \boxed{2 + 4d}$$

$\frac{1}{5} \cdot \frac{10}{1} + \frac{1}{5} \cdot \frac{20d}{1}$

Q2: Determine which expression is equivalent to $\frac{3}{4} - x\left(\frac{1}{2} - \frac{5}{8}\right) + \left(-\frac{3}{8}x\right)$.

(A) $-\frac{3}{4}x$

(B) $\frac{1}{2}x$

(C) $\frac{1}{8} - \frac{7}{8}x$

(D) $\frac{3}{4} - \frac{1}{4}x$

$$\frac{3}{4} - x\left(-\frac{1}{8}\right) + \left(-\frac{3}{8}x\right)$$

$$\frac{3}{4} + \frac{1}{8}x + \left(-\frac{3}{8}x\right)$$

$$\frac{3}{4} - \frac{2}{8}x$$

$$\frac{2}{8} = \frac{1}{4}$$

$$\frac{1}{2} - \frac{5}{8} = \frac{4}{8} - \frac{5}{8} = -\frac{1}{8}$$

Q3: Which expression is equivalent to $(7x - 5) - (3x - 2)$?

(A) $10x - 7$

(B) $10x - 3$

(C) $4x - 7$

(D) $4x - 3$

$$\boxed{7x} - 5 - \boxed{-3x} + 2$$

$$4x - 3$$

$$\begin{array}{r} -5 + 2 \\ -3 \end{array}$$

Q4: Which expression is equivalent to $4.8 + 2.2w - 1.4w + 2.4$?

(A) $0.4(6 + 2w)$

$2.4 + 0.8w$

(B) $0.8(3 + w)$

$2.4 + 0.8w$

(C) $1.6(3 + 2w)$

(D) $3.6(2 + w)$

$$4.8 + 0.8w + 2.4$$

$$0.8w + 7.2$$

Q5: A family daycare center charges a one-time \$80 enrollment fee and \$90 per week (w).Write an equation for the total cost (t) based on the number of weeks (w) that a child is enrolled.

Answer:

$$t = \boxed{80 + 90w}$$

Q6: A pair of jeans costs x dollars and is subject to 7% sales tax.

cost - % (as decimal)

Using only one step, which of the following expressions could be used to find the final cost of the pair of jeans, in dollars?

total paid is 107% of original

$$107\% \cdot x$$

$$1.07x$$

- A $0.07x$
- B $1.07x$
- C $x + 7x$
- D $1 + 0.07x$

Q7: Elena bought a book for 25 percent less than the original price.

The original price was y dollars.

Which of the following expressions could be used to find the reduced price of the book in one step?

save 25%, so pay 75%

$$75\% \text{ of } y$$

$$.75y$$

- A $0.25y$
- B $0.75y$
- C $y - 25y$
- D $y - 75y$

Q8: Jordan's dog weighs p pounds. Emmett's dog weighs 25% more than Jordan's dog.

Which expressions represent the weight, in pounds, of Emmett's dog?

Select **each** correct answer.

Emmett's = 125% of Jordan's

$$125\% \text{ of } p$$

$$1.25p$$

- A $0.25p$
 - B $1.25p$
 - C $p + 0.25$
 - D $p + 1.25$
 - E $1p + 0.25p$
- $1.25p$

Q9: Leila is buying a toy panda. The price of the toy is x dollars, and she also has to pay a 9% tax. There are different ways of thinking about how to calculate Leila's total bill.

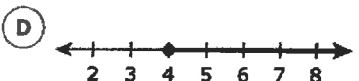
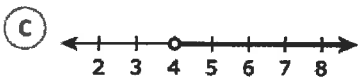
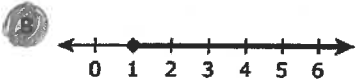
Consider the expressions given in the first column. Match the expressions to their meanings given under 3 column headings.

Expressions	TAX ONLY	TOTAL COST (TAX INCLUDED)	Neither of these
$1.09x$		X	
$x + 0.09$ adding 9¢			X
$9\% \text{ of } x$ $0.09x$	X		
$x + 0.09x$ original cost + tax		X	

Q10: Frantz must buy a minimum of \$25 of art supplies to qualify for free shipping. He bought 10 tubes of paint and an easel.

- Each tube of paint cost the same amount.
- The easel cost \$15.

Which of the following number lines shows all the possible costs, in dollars, of one tube of paint if Frantz qualified for free shipping?



$$\text{paint} + \text{easel} \geq 25$$

$$10p + 15 \geq 25$$

$$\frac{10p}{10} \geq \frac{10}{10}$$

$$p \geq 1$$

Q11: The amount of money in a bank account increased by 21.5% over the last year. If the amount of money at the beginning of the year is represented by n , which expression represents the amount of money in the bank account after the increase?

(A) $n + 0.215n$

(B) $n + 21.5n$

(C) $0.215n$

(D) $21.5n$

Original amount + 21.5% of original

$$1n + .215n$$

(could simplify to $1.215n$)

Q12: Alice is paying her bill at a restaurant.

The tax on the cost of her meal is 5%.

She decides to leave a tip of 20% of the cost of the meal plus the tax.

Choose the expression for her total bill if the cost of her meal is m dollars.

(A) $1.05m + 0.2(1.05m)$

(B) $1.05m + 0.20m$

(C) $0.5m + 0.2m$

(D) $1.25m$

$$\text{tax} = 0.05m$$

$$\text{subtotal} = 1.05m$$

$$\text{tip} = 0.2(1.05m)$$

$$\text{total} = 1.05m + 0.2(1.05m)$$

Q13: Rob is buying some green apples to make some fresh apple juice. The price of the green apples is G and Rob has a coupon for 10% off.

Consider the expressions given in the first column. Match the expressions to their meanings given under 4 column headings. Each meaning may match more than one expression.

Expressions	Price of the green apples without the coupon	Money Rob saves by using the coupon	Price of the green apple after using the coupon	None of these
$1.1G$ total w/ would be tax				X
save 10% of G $0.1G$		X		
pay 90% of G $0.9G$			X	
G	X			
$G - 0.1$ cost - 10cents				X

Q14: Leila is buying a toy panda. The price of the toy is x dollars, and she also has to pay a 9% tax. There are different ways of thinking about how to calculate Leila's total bill.

Consider the expressions given in the first column. Match the expressions to their meanings given under 3 column headings.

Expressions	Find the dollar amount of the tax, then add it to the price before tax	Find the percent of the original price Leila has to pay, then convert the percent to a decimal and multiply to get the final price	Neither of these
$1.09x$ 109% of x		X	
price + 9cents $x + 0.09$			X
$0.09x$ (tax)			X
$x + 0.09x$	X		

Q15: The population of a city is expected to increase by 7.5% next year. If p represents the current population, which expression represents the expected population next year?

- (A) $1.75p$
- (B) $1.075p$
- (C) $p + 0.075$
- (D) $1 + 0.075$

$7.5\% = \frac{7.5}{100} = 0.075$
 current + increase
 $1p + 0.075p$
 $1.075p$

Q16: I ordered some books online for myself and friends. Each book costs \$13 and the store charges a flat rate for shipping of \$20.

Write an expression for the cost of buying n books.

Answer:

$13n + 20$

Q17: Sally has a discount card that reduces the price of her grocery bill in a certain grocery store by 5%. If c represents the cost of Sally's groceries, which expression represents Sally's grocery bill?

- A $0.05c$
- B $0.95c$
- C $c - 0.05$
- D $c + 0.95$

save 5%, pay 95%

Q18: Evan has a summer job to pick berries on a farm.

- He earns \$2.00 every 15 minutes that he picks strawberries.
 - He earns \$2.40 for every 15 minutes that he picks blueberries.
 - He picked strawberries for an hour and blueberries for 45 minutes.
- How much money did Evan earn?

- A \$4.40
- B \$8.80
- C \$15.20
- D \$26.40

strawberries + blueberries
 $2(4) + 2.40(3)$
 $8 + 7.20$
 15.20

Q19: Mr. Jones spent \$156 to attend a college football game.

- Twenty percent of this cost was for a parking pass.
 - He spent the remainder of the money on two tickets for the game.
- What was the price per ticket?

- A \$15.60
- B \$31.20
- C \$62.40
- D \$124.80

parking + 2 tickets = 156
 $0.20(156)$
 $31.20 + 2t = 156$
 $-31.20 \quad -31.20$

 $2t = 124.80 \quad t = 62.40$
 $\frac{124.80}{2}$

Q20: Ms. Donaldson earns \$18.80 per hour for the first 40 hours she works in a week. She earns $1\frac{1}{2}$ times that amount per hour for each hour beyond 40 hours in a week. Last week Ms. Donaldson worked 45.5 hours. How much money did she earn?

Answer: \$

first 40 hrs + last 5.5 hrs
 $18.80(40) + 28.20(5.5)$
 $752 + 155.10 = \$907.10$

A health insurance payment of \$34.55 was deducted from Ms. Donaldson's earnings for the week. After the insurance deduction, payroll taxes equal to 28% of the balance were deducted. What was the amount that Ms. Donaldson received?

Answer: \$

907.10	taxes	new amount left
-34.55	$872.55(0.28)$	872.55
872.55	244.31	-244.31
amt. left after insurance		628.24

Q21: Anna saved \$20 in a jar each month for $2\frac{1}{2}$ years. She spent 75% of her savings on a computer. How much money did Anna have left in the jar?

- A \$150
- B \$240
- C \$450
- D \$600

saved 25% $2\frac{1}{2}$ yrs = 30 months
 $20(30) = \$600$ total, saved 25%, so $0.25(600) = 150$

Q22: Tammy takes a taxi home from the airport. The taxi fare is \$2.10 per mile, and she gives the driver a tip of \$5. Tammy pays a total of \$49.10. What is the distance (in miles) between Tammy's home and the airport?

Correct answer

21 miles

mileage fee + tip = 49.10
 $2.10m + 5 = 49.10$
 $2.10m = 44.10$
 $m = 21$

Q23: Mr. Gonzales has only \$42.50 to spend at a clothing store. He wants to buy a shirt that costs \$29, including tax, and some bracelets that cost \$4.50 each, including tax. Choose an equation to determine x , the maximum number of bracelets Mr. Gonzales could buy.

- A $29x + 4.50 = 42.50$
- B $x + 29 = 42.50$
- C $42.50 - 4.50x = 29$
- D $29 + 4.50x = 42.50$

shirt + bracelets = 42.50
 $29 + 4.50x = 42.50$
 -29
 $4.50x = 13.50$
 $\frac{4.50x}{4.50} = \frac{13.50}{4.50}$
 $x = 3$

Solve the equation to determine the number of bracelets Mr. Gonzales could buy.

Answer: 3 bracelets

Q24: Which of the following equations have $z = 4$?

Select all that apply.

- A $9z + 22 = 26$
- B $7z - 1 = 27$
- C $46 - 8z = 14$
- D $5z + 40 = 62$

Solve each OR use substitution

$9z + 22 = 26$ -22 $9z = 4$ $\frac{9z}{9} = \frac{4}{9}$ $z = \frac{4}{9}$	$7z - 1 = 27$ $+1$ $7z = 28$ $\frac{7z}{7} = \frac{28}{7}$ $z = 4$	$46 - 8z = 14$ -46 $-8z = -32$ $\frac{-8z}{-8} = \frac{-32}{-8}$ $z = 4$	$5z + 40 = 62$ -40 $5z = 22$ $\frac{5z}{5} = \frac{22}{5}$ $z = 4.4$
--	--	--	--

Q25: There are three inequalities listed in the first column. Each of the other columns contain a number. Determine if the number given in the column heading is a solution to the inequality.

Select all that apply.

Inequalities	5	10	15	20
$y \geq 9$	$5 \geq 9$ NO	$10 \geq 9$ Yes	$15 \geq 9$ Yes	$20 \geq 9$ Yes
$3x - 5 \leq 10$	$3(5) - 5 \leq 10$ $15 - 5 \leq 10$ $10 \leq 10$ Yes	$3(10) - 5 \leq 10$ $30 - 5 \leq 10$ $25 \leq 10$ NO	$3(15) - 5 \leq 10$ $45 - 5 \leq 10$ $40 \leq 10$ NO	$3(20) - 5 \leq 10$ $60 - 5 \leq 10$ $55 \leq 10$ NO
$-4m \leq 20$	$-4(5) \leq 20$ $-20 \leq 20$ Yes	$-4(10) \leq 20$ $-40 \leq 20$ Yes	$-4(15) \leq 20$ $-60 \leq 20$ Yes	$-4(20) \leq 20$ $-80 \leq 20$ Yes

Q26: Stefanie bought a package of pencils for \$1.75 and some erasers that cost \$0.25 each. She paid a total of \$4.25 for these items, before tax

Exactly how many erasers did Stefanie buy?

Enter your answer in the box.

$$\begin{array}{r} \text{pencils} + \text{erasers} = \text{total} \\ 1.75 + 0.25e = 4.25 \\ \underline{-1.75} \qquad \qquad \qquad \underline{-1.75} \\ 0.25e = 2.50 \\ \underline{0.25} \quad \underline{0.25} \end{array}$$

Q27: A baseball team ordered 12 jerseys. Each jersey costs the same amount. The shipping cost for the jerseys was \$3 and the total cost of the order was \$99. Which equation can be used to find the price p of each jersey?

(A) $\frac{3}{p} + 12 = 99$

(B) $3p + 12 = 99$

(C) $\frac{12}{p} + 3 = 99$

(D) $12p + 3 = 99$

$$\begin{array}{r} \text{jerseys} + \text{shipping} = \text{total} \\ 12p + 3 = 99 \end{array}$$

Q28: Carmine paid an electrician x dollars per hour for a 5-hour job plus \$70 for parts. The total charge was \$320. Which equation can be used to determine how much the electrician charged per hour?

(A) $5x = 320 + 70$

(B) $5x = 320 - 70$

(C) $(70 + 5)x = 320$

(D) $(70 - 5)x = 320$

$$\begin{array}{r} \$ \text{ for} \\ \text{hours} + \text{parts} = \text{total} \\ 5x + 70 = 320 \\ \underline{-70} \qquad \qquad \qquad \underline{-70} \\ 5x = 320 - 70 \end{array}$$

Q29: Part A

A phone company charges a monthly rate of \$12.95 and \$0.25 a minute per call.

The bill for m minutes is \$21.20.

Write an equation that models this situation.

Part B

How many minutes were charged on this bill?

Answer: minutes

$$\begin{array}{r} \text{monthly} + \text{minutes} = \text{total} \\ \text{rate} \\ 12.95 + 0.25m = 21.20 \\ \underline{-12.95} \qquad \qquad \qquad \underline{-12.95} \\ 0.25m = 8.25 \\ \underline{0.25} \quad \underline{0.25} \\ m = 33 \end{array}$$

Q30: A bowling alley charges x dollars per guest and a fixed \$50 rental fee for parties.
Which equation represents the total cost y for 9 guests?

- A $y = 9x$
- B $y = 9x + 41$
- C $y = 9x + 50$
- D $y = 50x + 9$

guests + rental = total
 $9x + 50 = y$

Q31: Part A

can't go over, so \leq

At most, Marc can spend \$50 on sandwiches and chips for a picnic his art club is having.

He already bought chips for \$6 and will buy sandwiches that cost \$4.50 each.

Write an inequality to show how many sandwiches (s) he can buy.

Answer:

sandwiches + chips ≤ 50
 $4.50x + 6 \leq 50$
 $\quad -6 \quad -6$

 $4.50x \leq 44$
 $\quad 4.50 \quad 4.50$

 $x \leq 9.7$,
 round down
 to 9

Part B

Solve the above inequality to show the maximum amount of sandwiches he can buy.

Answer: sandwiches.

Q32: Jessica rented 1 video game and 3 movies for a total of \$11.50.

- The video game cost \$4.75 to rent.
- The movies cost the same amount each to rent.

What amount, in dollars, did Jessica pay to rent each movie?
 Enter your answer in the box.

video game + movies = total
 $4.75 + 3m = 11.50$
 $\quad -4.75 \quad -4.75$

 $3m = 6.75$
 $\quad 3 \quad 3$

 $m = 2.25$

Q33: Elena walked 20 minutes more than Lin. Jada walked twice as long as Elena. Jada walked for 90 minutes.

The equation $2(x + 20) = 90$ describes this situation. Match each amount in the story with the different parts of the equation shown.

- The number of minutes that Jada Walked:
- The number of minutes that Elena walked:
- The number of minutes that Lin walked:

a. x
 x + 20
 2(x + 20)
 90

b. x
 x + 20
 2(x + 20)

c. x
 x + 20
 2(x + 20)
 90

Jada
 $90 = 2(20 + x)$
 Elena = $20 + x$

Q34: Barry has \$30.00.
 He spends \$9.00 for lunch.
 Puzzle magazines cost \$4.50 each.
 Which graph shows how many puzzle magazines Barry could buy?

$$\text{lunch} + \text{puzzle magazines} \leq 30$$

$$9 + 4.50x \leq 30$$

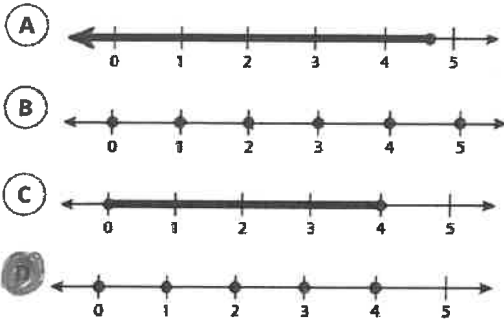
$$\begin{array}{r} 9 + 4.50x \leq 30 \\ -9 \quad -9 \end{array}$$

$$4.50x \leq 21$$

$$\begin{array}{r} 4.50x \leq 21 \\ \hline 4.50 \quad 4.50 \end{array}$$

$$x \leq 4.6$$

can't buy partial magazines



Q35: Jill always buys the same kind of shampoo in an 11.5-ounce bottle.
 She is at the store buying more and sees that the bottle is now bigger and has 20% more for the same price.
 How many ounces of shampoo are in the new bottle?

- (A) 11.5
- (B) 13.8
- (C) 17.3
- (D) 23.0

20% of 11.5
 $0.20(11.5)$
 2.3 more
 ounces

$$\begin{array}{r} 11.5 \\ + 2.3 \\ \hline 13.8 \end{array}$$

OR, find 120% of 11.5

$$1.2(11.5)$$

$$13.8$$

Q36: Luke's baseball team went to an amusement park at the end of the season.
 The cost of admission for 5 coaches and 12 players was \$407.50.
 The admission cost for each coach was \$27.50.
 What was the admission cost for each player?

- (A) \$22.50
- (B) \$23.97
- (C) \$27.50
- (D) \$31.67

coaches + players = 407.50

$$5(27.50) + 12x = 407.50$$

$$137.50 + 12x = 407.50$$

$$\begin{array}{r} 137.50 + 12x = 407.50 \\ -137.50 \quad -137.50 \end{array}$$

$$\frac{12x}{12} = \frac{270}{12} \rightarrow \text{amount spent on players}$$

$$x = 22.5$$

