**Additional Problems for 7th Grade Benchmark 1**

AP1

(7.7A) Which equation best represents the relationship between *x* and *y* below?

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 0 | -7 |
| 3 | -5 |
| 6 | -3 |
| 9 | -1 |
| 12 | 1 |

A $y=2x-7$

B $y=\frac{x}{3}-7$

C $y=-2x-7$

D $y=\frac{2}{3}x-7$

 Answer: D

AP2

(7.7A) A pool has 2 feet of water in it, and water is being added to it at a rate of 3 inches per hour. Which equation represents the relationship between *y*, the height of the water in inches, and *x*, the number of hours water is being added?

A $y=3x+2$

B $y=3x+24$

C $y=2x+3$

D $y=2+\frac{3}{x}$

 Answer: B

AP3

(7.10A) Monique needs $6.00 in quarters for a coin-operated washing machine. She already has five quarters. Which equation can be used to find *x*, the number of additional quarters Monique needs in order to have enough money to wash her clothes?

A $0.25x+1.25=6$

B $1.25+x=6$

C $x-6=30$

D $1.25x+6=30$

 Answer: A

AP4

(7.11A) A 50-gallon tank is draining at a rate of 2.5 gallons per minute. Model an equation to represent the time, *t*, in minutes it will take the tank to only have two gallons left in it. Solve for *t*.

1. $2+2.5t=50; t=18 minutes$
2. $2.50+2t=50; t=23.75 minutes $
3. $50-2.5t=2; t=19.2 minutes$
4. $50-2.5t=2; t=20 minutes$

Answer: C

AP5

(7.11A) Tickets for a play cost $5.00 each and40 tickets have already been sold. Model an inequality to represent the number of additional tickets, *x*, that need to be sold in order for the play revenue to be at least $1200. Solve the inequality.

A $40+5x\geq 1200; x\geq 232 tickets$

B $5x+200\geq 1200; x\geq 200 tickets$

C $40+5x\leq 1200; x\leq 232 tickets$

D $5x+200<1200; x<200 tickets$

 Answer: B

AP6

(7.2A) Which subset of the rational numbers would best describe the type of numbers in the following set:

 $\left\{-18, -13,-7, 0, 2, 315\right\}$

1. Whole Numbers
2. Integers
3. Natural Numbers
4. Negative Numbers

Answer: B

AP7

(7.2A) Which of the following statements is true?

1. Whole Numbers is a subset of the Integers.
2. Integers is a subset of the Whole Numbers.
3. The set of Whole Numbers contains all of the Integers.
4. All Integers are contained in the set of negative Whole Numbers.

Answer: A

AP8

(7.4A) Which of the following equations represents the distance, *d*, a car travels if it is moving at 55 miles per hour? Let *t* represent the number of hours the car has been traveling.

1. $d=55+t$
2. $t=55+t$
3. $d=55t$
4. $t=55d$

Answer: C

AP9

(7.4C) Which of the following equations has a constant of proportionality of 7?

A. $y=7x+5$

B. $y=5x+7$

C. $y=7$

D. $y=7x$

 Answer: D

AP10

(7.4C) What would be the constant of proportionality for the following table?

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 0 | 0 |
| 1 | 4.5 |
| 2 | 9 |
| 3 | 13.5 |
| 4 | 18 |

1. 0
2. 4.5
3. 9
4. 18

Answer: B

AP11

(7.10B) The following number line represents the solution for which inequality? 

A $-3x+5<8$

B $3x+10\leq 13$

C $x+4>3$

D $3x+6<3$

 Answer: D

AP12

(7.10B) The following number line represents the solution for which inequality?



A $3x+4>10$

B $4x-5\geq 3$

C $2x+4<2$

D $12>6x$