THIRD SPACE LEARNING

7th Grade Virginia State Practice Math Test

Virginia Practice Test Grade 7

Grade 7

Questions

Name: ..... Class: .....

Date: ..... Score: .....

You are NOT permitted to use calculators.

1 What is the quotient in simplest form?

$$(-\frac{3}{7} \div \frac{9}{14})$$

A. $-\frac{27}{98}$

B. $\frac{27}{98}$

C. $\frac{14}{21}$

D. $-\frac{2}{3}$

2 Write the fraction and decimal equivalent to 10^{-4}.

Fraction equivalent:_____

Decimal equivalent:_____

3 Select all the statements that are true.

A. $|-4.1| = -4.1$

B. $|-\frac{2}{7}| = \frac{2}{7}$

C. $|9.3| = -9.3$

D. $-|-1.6| = -1.6$

E. $-|4.6| = 4.6$

4 The weather app indicates that the probability of snow tomorrow is 0.83. Which word is the best description of the likelihood of snow tomorrow?

A. likely
B. certain
C. unlikely
D. impossible

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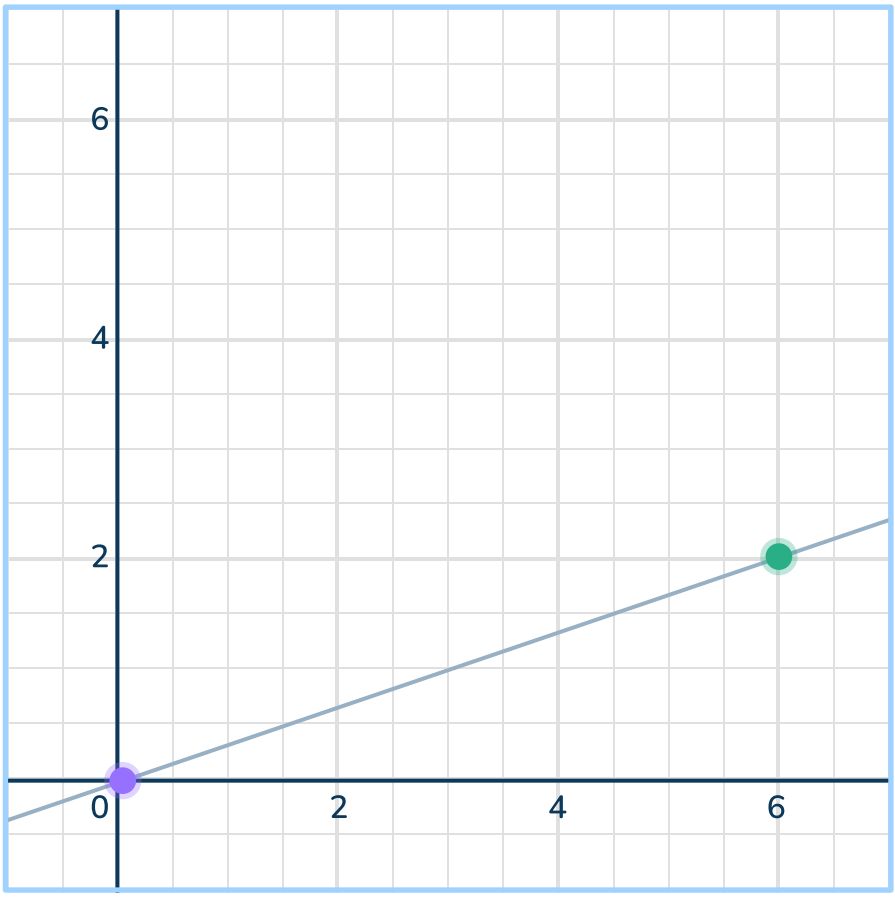
5 Kyle is saving to buy new wireless earbuds. The earbuds are $170. Currently he has $80 saved and just got a new job paying $22 an hour. Which inequality can be used to calculate the amount of hours, x, Kyle has to work in order to have enough money?

A. $80 + 22x < 170$
B. $80 + 22x = 170$
C. $22 + 80x \geq 170$
D. $80 + 22x \geq 170$

6 Use the graph below to determine the constant of proportionality.



Place your answer in the space provided: _____

7 Which of the following is not a property of a rectangle?

A. Four angles are equal in measure.
B. Opposite sides are equal in length.
C. It is a parallelogram.
D. All four sides are equal in length.

8 △TGS with vertices T(0, 1), G(–2, 3), and S(–4, –1) is dilated by a scale factor of 2 and the center of the dilation being the origin. What are the coordinates of T', G', and S'?

T' = _____

G' = _____

S' = _____

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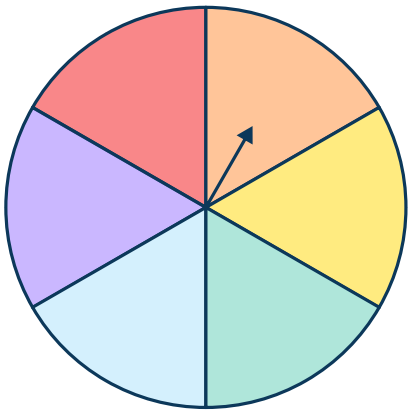
9 The spinner below has 6 equal spaces. The table shows the experimental probability of 60 spins of the spinner. Based on the results, what is the experimental probability that on any one spin the spinner lands on green?

Color	Frequency
Red	8
Orange	12
Yellow	6
Green	17
Blue	10
Purple	7



Use the space to write your answer:

Answer

10 What is $\sqrt{169}$?

Answer:_____

Unit 2
25 questions

You are permitted to use calculators.

1 Jill is a natural wildlife photographer. She takes the same amount of pictures each day for 8 days. The table below represents the total number of pictures she has after 8 days. How many pictures in total does Jill have on day 3? Use the space below to show your work.

Number of days	Total amount of pictures
2	76
5	190
8	304

Answer

2 Jennie goes shopping for a new pair of jeans. The jeans she likes are originally $84.00.

- There is a 20% off sale.
- There is a 6% sales tax.

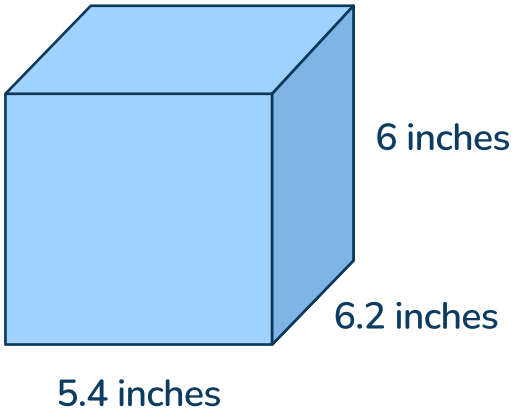
How much will Jennie pay for the jeans? Show your work in the space provided.

Answer

3 Select the statements that are written in scientific notation correctly.

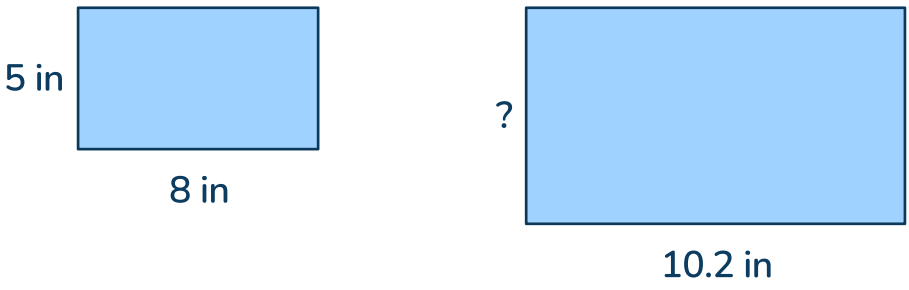
A. $0.0093 = 0.93 \times 10^{-2}$
B. $0.00867 = 8.67 \times 10^{-3}$
C. $0.076 = 7.6 \times 10^{2}$
D. $34{,}090{,}000 = 3.409 \times 10^{7}$
E. $2{,}901{,}000 = 29.01 \times 10^{5}$

4 Calculate the surface area of the prism. Use the space to show your work.



Answer

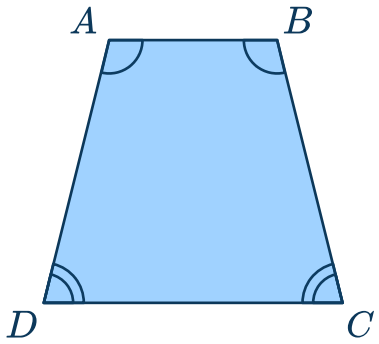
5 The rectangles below have proportional dimensions. What is the width of the larger rectangle?



A. 6 in
B. 3.9 in
C. 4 in
D. 6.375 in

6 Find the measure of the missing angles of the isosceles trapezoid.

Given: Angle A = 125°



Angle B = _____

Angle D = _____

Angle C = _____

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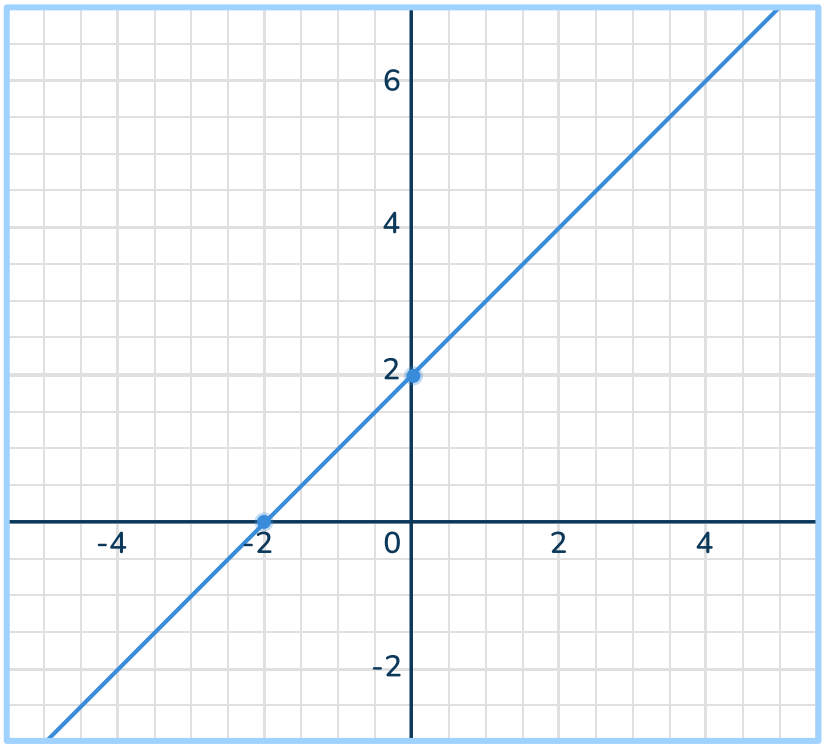
7 Determine the y-intercept of the line graphed below.



y-intercept = _____

8 Find the value of x that makes the equation true.

$2(x - 5) + 6 = \frac{1}{2}(6x - 18)$

Use the space to show your work.

Answer

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9 A bag contains red marbles, blue marbles and green marbles. The number of each of the marbles in the bag is as follows:

- 10 red marbles
- 15 blue marble
- 25 green marbles

What is the probability that the marble selected is red or blue?

A. $\frac{1}{5}$

B. $\frac{3}{50}$

C. $\frac{1}{2}$

D. $\frac{3}{10}$

10 What value will make the equation true?

$-2.5 - \_\_\_\_\_ = -4\frac{1}{2}$

A. -2
B. 2
C. -2.5
D. 2.5

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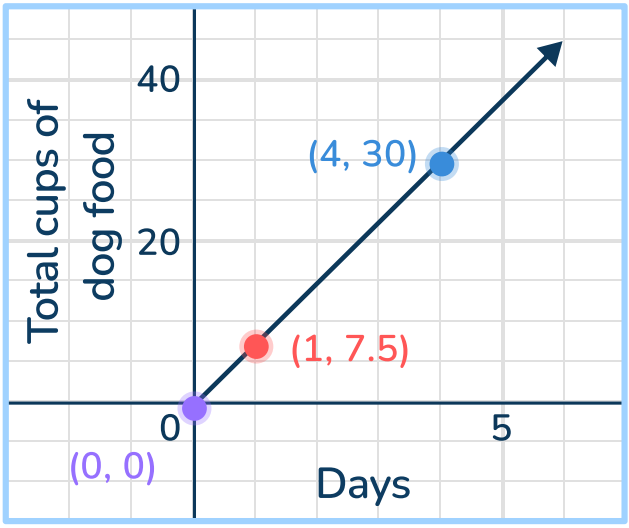
11 Which statements about the graph are true? Select all that apply.



A. The relationship between days and the total cups of dog food is proportional.
B. The point (1, 7.5) is the unit rate per day.
C. The point (4, 30) shows that after 4 days, the total cups of dog food is 30.
D. The point (3, 23.5) is a point on the line.
E. As the total cups of dog food increases by 1, the days increase by 7.5.

12 Train A and Train B offer travel discounts to the same destination. The original price of the tickets are below.

- Train A has a 25% discount to the $115 ticket.
- Train B offers $\frac{1}{3}$ off of the original price of $120 ticket.

Which train offers the better deal? Show all of your work. Be sure to include the discounted ticket price for each train in your answer.

Answer

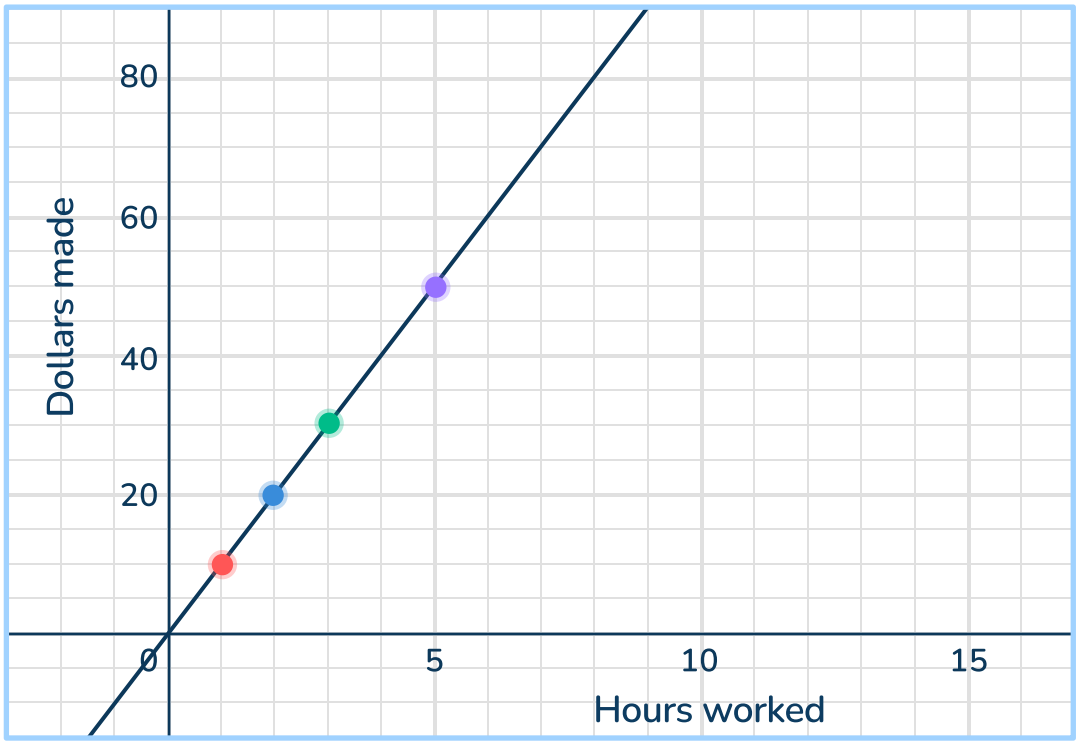
13 Lori and Diana went for a jog every day for 7 days.

- Lori jogged $3\frac{1}{4}$ miles each day.
- Diana jogged $4\frac{1}{2}$ miles each day.

How much further (in miles) did Diana jog at the end of 7 days than Lori?

Answer:_____

14 Natalie has a job for the holiday season waiting tables. The graph below shows the relationship between the number of hours she works and the amount of money she makes.



Which equation can be used to find the total amount of money (in dollars) she makes for every hour she works?

A. $y = 5x$
B. $y = 50x$
C. $y = 10x$
D. $y = 20x$

15 Which scenario below will result in a final value of zero?

A. An overall change in temperature from 12° to -12°
B. The total profit when someone buys something for $100 and then sells it for $100.
C. A hot air balloon that goes from sea level to 34 feet above sea level.
D. Temperature change of -5° to 3°.

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16 The data below represents the temperature of 10 consecutive days in Miami.

78, 87, 90, 67, 78, 79, 83, 81, 90, 84

What is the median temperature over the 10 days?

A. 82
B. 81
C. 83
D. 90

17 What is $\frac{1}{5}$% of[(-0.45) × (-$\frac{3}{5}$)]?

Use the space below to show your work.

Answer

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18 What is the value of the expression, 99 ÷ 11-2(7-3)²

A. 23
B. -23
C. 21
D. -21

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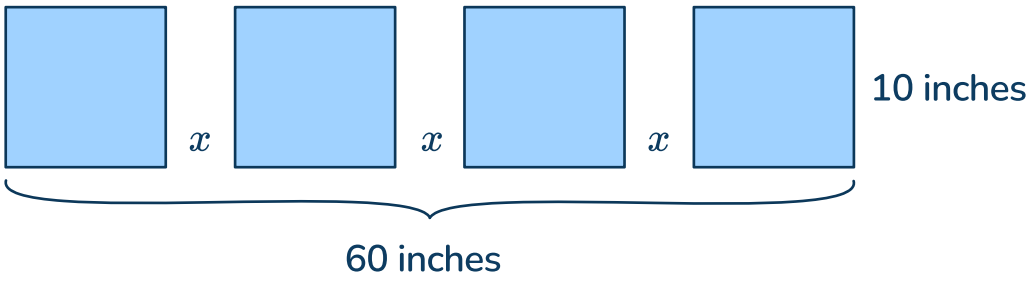
19 What is the solution to, -$\frac{1}{3}x$ -2 < -1?

Answer:_____

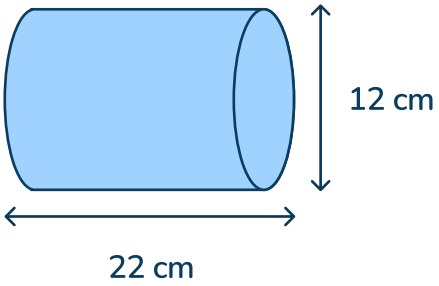
20 Hazel is hanging 4 square picture frames on the wall. The space between each frame is the same. The frames are 10 inches by 10 inches and the space on the wall measures 10 inches by 60 inches. How far apart is each frame?



Use the space to show your work and write your answer.

Answer

21 Which answer represents the approximate surface area to the cylinder below?



A. 2563.54 cm²
B. 1055.57 cm²
C. 2111.15 cm²
D. 942.48 cm²

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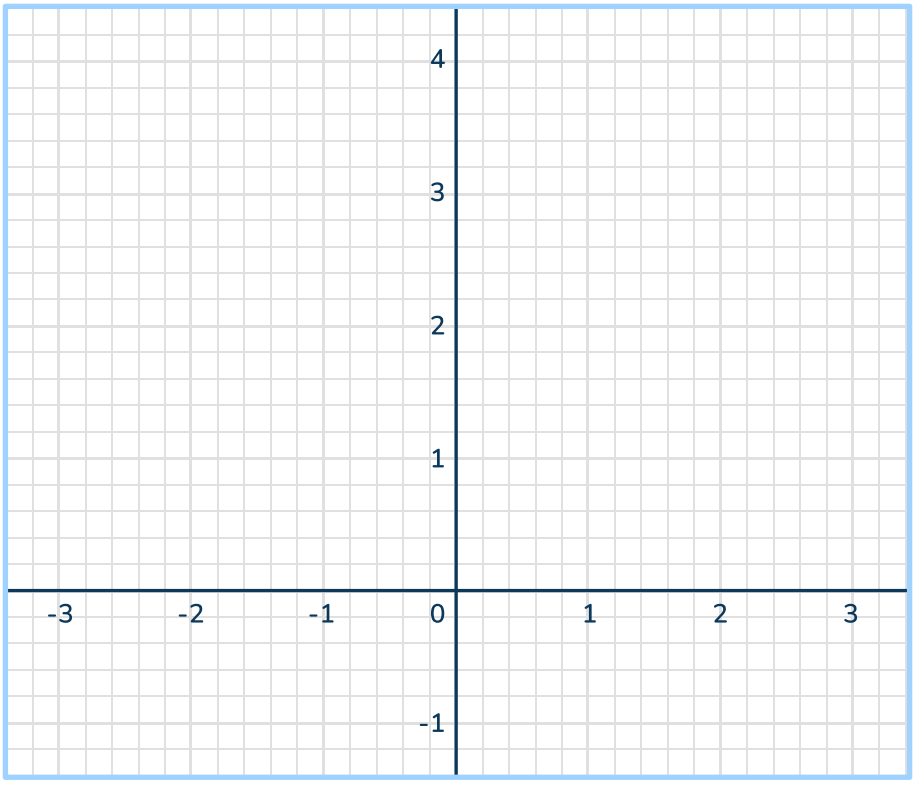
22 A line contains the point (-2, 4) and has a slope of -3. Find two more points that are on the line.

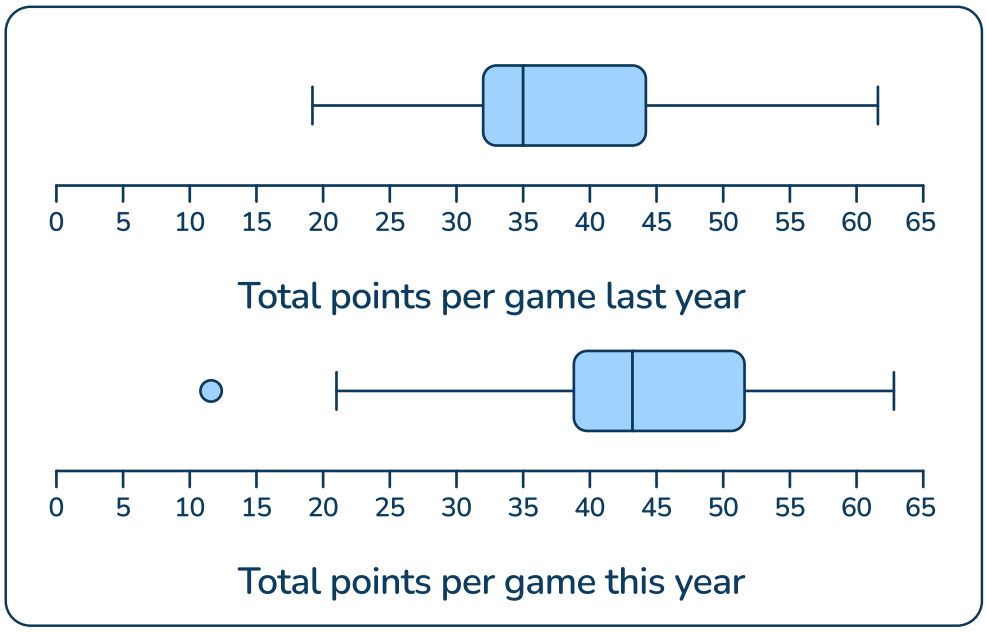
Use the grid below to show your answers.



23 t and s are plotted on the number line. Select the expression that represents the least value.

A. $-s+t$
B. $s-t$
C. $t-s$
D. $-t-s$

24 The two box plots show the total points per game for the school's basketball team last year and this year. Rasheem says that, on average, the team was better this year. Which statement about the box plot supports his conclusion?



A. There is an outlier of 10 from the games this year, but no outlier for last year.

B. All the games from this year scored more points than last year.

C. More than half of this year's games had more points than the top 25% of last year's.

D. The range for this year is larger than the range for last year.

25 Linda spent a total of $1400 for 3 tickets to the Years Tour at MetaLife Stadium and for parking. The cost of the tickets were the same, including tax. She also spent $50 to park.

- Write an equation that can be used to determine, c, the cost in, dollars of each ticket, including tax.
- Use the equation to find the cost of 1 ticket, including the tax.

Use the space below to show your answer

Answer

Answer Key

UNIT 1 - NO CALCULATOR			
Item number	Correct answer	Standard(s)	DOK
1	**D**	**7.CE.1**	DOK 1
2	Fraction equivalent: $\frac{1}{10000}$ Decimal equivalent: 0.0001	**7.NS.1b**	DOK 2
3	B, D	**7.PFA.2a**	DOK 2
4	A	**7.PS.1**	DOK 2
5	D	**7.PFA.4d**	DOK 3
6	$\frac{2}{6} = \frac{1}{3}$	**7.PFA.1a**	DOK 2
7	D	**7.MG.3a**	DOK 2
8	T” = (0, 2) G” (-4, 6) S” (-8, -2)	**7.MG.4**	DOK 2
9	$\frac{17}{60}$	**7.PS.1c**	DOK 1
10	±13	**7.NS.3**	DOK 1

UNIT 2 - CALCULATOR			
Item number	Correct answer	Standard(s)	DOK
1	$\frac{2}{76} = \frac{3}{x}$ $x = 114$ 114 total pictures	**7.CE.2a**	DOK 3
2	84 × 0.20 = 16.80 84 - 16.80 = 67.20 67.20 × 0.06 = 4.032 67.20 + 4.03 = 71.23 The jeans cost $71.23	**7.NS.2**	DOK 3
3	B, D	**7.NS.1c**	DOK 2
4	SA = 2(5.4 × 6.2) + 2(6.2 × 6) + 2(6 × 5.4) SA = 206.16 in²	**7.MG.1b**	DOK 2
5	D	**7.CE.2c** **7.MG.2**	DOK 2
6	Angle B = 125° Angle C = 55° Angle D = 55°	**7.MG.3**	DOK 2
7	y-intercept = 2	**7.PFA.1**	DOK 2
8	$2(x - 5) + 6 = 12 (6x-18)$ $2x - 10 + 6 = 3x - 9$ $2x - 4 = 3x - 9$ $-x = -5$ $x = 5$	**7.PFA.3c**	DOK 2
9	C	**7.PS.1**	DOK 2
10	B	**7.PFA.2** **7.CE.1**	DOK 2

UNIT 2 - CALCULATOR			
Item number	Correct answer	Standard(s)	DOK
11	A, B, C	**7.PFA.1**	DOK 3
12	Train A: 115-.25(115) = $86.25 Train B: 120 ÷ 3 = 40, 120 - 40 = 80 Train B is the better buy because it costs $80 and Train A is $86.25.	**7.PFA.3** **7.CE.2**	DOK 3
13	Lori: $3\frac{1}{4} \times 7 = 22\frac{3}{4}$ Diana: $4\frac{1}{2} \times 7 = 31\frac{1}{2}$ $31\frac{1}{2} - 22\frac{3}{4} = 8\frac{3}{4}$ miles more	**7.CE.1**	DOK 3
14	C	**7.CE.2** **7.PFA.1**	DOK 3
15	B	**7.NS.2**	DOK 3
16	A	**7.PS.2**	DOK 2
17	$\frac{1}{5}\% \times (-0.45 \times -\frac{3}{5})$ $0.2\% \times (0.27)$ $0.002(0.27) = 0.00054$	**6.PS.1** **6.CE.1**	DOK 3
18	B	**7.NS.2**	DOK 3
19	$x > -3$	**7.PFA.4**	DOK 2

UNIT 2 - CALCULATOR			
Item number	Correct answer	Standard(s)	DOK
20	$10 + 10 + 10 + 10 + x + x + x = 60$ $40 + 3x = 60$ $3x = 20$ $x = 6\frac{2}{3}$ inches $6\frac{2}{3}$ inches in between each frame	**7.PFA.3**	DOK 3
21	B	**7.MG.2**	DOK 1
22	Points can vary: (0, -2) (1. -5)	**7.PFA.1**	DOK 3
23	B	**7.PFA.2** **7.NS.2**	DOK 3
24	C	**7.PS.2**	DOK 3
25	$c = (1400\text{-}50) \div 3$ $c = \$450$ \$450 per ticket	**7.PFA.3** **7.CE.1**	DOK 3

Breakdown of Assessment by domain				
Number and Number Sense (NS)	Computation and Estimation (CE)	Measurement and Geometry (MG)	Probability and Statistics (PS)	Patterns, Functions, and Algebra (PFA)
17%	22%	14%	15%	32%

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- Differentiated instruction for each student
- Aligned to your state's standard
- Scaffolded learning to close gaps

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