THIRD SPACE
LEARNING

6th Grade NY State Practice Math Test

New York Practice Test Grade 6

Grade 6

Questions

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

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

SESSION 1:
30 Multiple Choice

Standard: 6.EE.2a
DOK 1

1 Which expression is equivalent to 15 less than the quotient of 7 and f?

A. $15 - \dfrac{f}{7}$

B. $15 - (f \times 7)$

C. $\dfrac{f}{7} - 15$

D. $f \times 7 - 15$

Standard: 6.RP.3a

DOK 1

2 What are the missing values in the ratio table?

7	21		
5		30	40

    A. 5, 10, 56

    B. 15, 42, 56

    C. 15, 21, 42

   D. 5, 42, 56

Standard: 6.RP.3b

DOK 1

3 Jay runs 16.5 miles in 2.2 hours. What is his speed in miles per hour?

    A. 7.5 miles per hour

    B. 0.29 mile per hour

    C. 0.3 mile per hour

    D. 7 miles per hour

Standard: 6.G.4

DOK 2

4   The net of the triangular prism is below. Find the surface area.
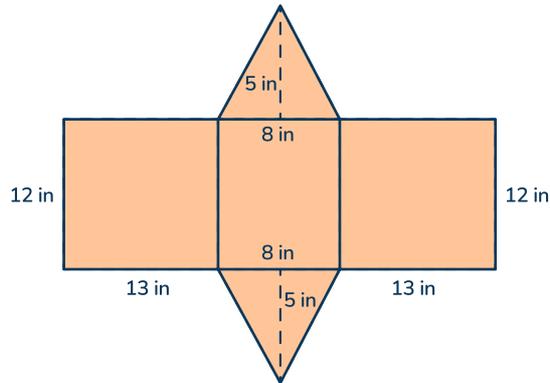
A. 292 in²

B. 428 in²

C. 272 in²

D. 448 in²

Standard: 6.EE.1

DOK 2

5   What is the value of the expression $\dfrac{2\,(8-4)+4^2}{6}$

A. 6

B. $2\dfrac{2}{3}$

C. 4

D. $3\dfrac{2}{3}$

Standard: 6.RP.3b

DOK 2

6 Ms. Kinnaly buys 5.6 pounds of peanuts and paid $17.92. What was the price of the peanuts per pound?

    A. $0.31
    B. $0.30
    C. $2.20
    D. $3.20

Standard: 6.NS.4

DOK 2

7 What is the least common multiple of 8 and 12?

    A. 4
    B. 24
    C. 48
    D. 96

Standard: 6.NS.6c
DOK 2

8   The table below shows the elevations of various cities with respect to sea level. Which city is closest to sea level?

City	Elevation
Snowshoe, WV	4.848 ft
Westmorland, CA	-157 ft
Leedsville, CA	10,152 ft
Calipatria, CA	-184 ft

A. Calipatria, CA

B. Leedsville, CA

C. Snowshoe, WV

D. Westmorland, CA

Standard: 6.NS.8
DOK 2

9   A line segment is plotted on the coordinate plane, A (-7, 6) and B(-7, -8). What is the length of segment AB, in units?

A. 14 units

B. 13 units

C. 2 units

D. -2 units

Standard: 6.RP.3c

DOK 2

10 The number 15 is 25% of what number?

A. 60

B. 3.75

C. 40

D. 65

Standard: 6.EE.3

DOK 2

11 Which expression is equivalent to $6(7f - 9)$?

A. $13f - 15$

B. $13f + 15$

C. $42f - 54$

D. $43f + 54$

Standard: 6.G.1
*DOK 2*

12 Find the area of the right triangle.
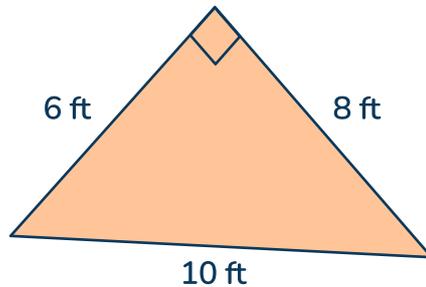
A. 48 ft²

B. 30 ft²

C. 80 ft²

D. 24 ft²

Standard: 6.G.2
DOK 2

13 Find the volume of the rectangular prism.
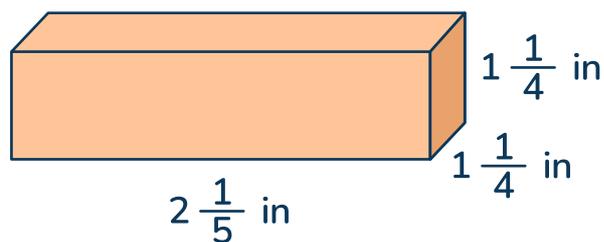
A. $3\frac{7}{16}$ in³

B. $2\frac{7}{16}$ in³

C. $3\frac{8}{16}$ in³

D. $2\frac{8}{16}$ in³

Standard: 6.RP.3
DOK 2

14   If the ratio of boys to girls in a 6th grade math class is 2:5. If there are 8 boys, how many girls are there?

> A. 25 girls
> B. 28 girls
> C. 20 girls
> D. 15 girls

Standard: 6.EE.9
DOK 2

15   Maria pays $175.15 to be part of the all star competitive cheerleading team. There is a monthly gym fee, g, plus $50 per private lesson where p represents the number of private lessons. Which equation represents Maria's monthly fee?

> A. $175.15 = g +$ ($50 x p)
> B. $175.15 = g$ x $50 x p
> C. $g = $175.15 +$ ($50 x p)
> D. $g = $175.15 +$ ($50 + p)

Standard: 6.EE.8

DOK 2

16 Which inequality represents the number line below?

A. $x < -3$

B. $x > -3$

C. $x \leq -3$

D. $x \geq -3$


Standard: 6.EE.2c

DOK 2

17 Find the value of the expression $\frac{1}{4}a + c^3$ when $a = 20$ and $c = 2$

A. 88

B. 13

C. 11

D. 86

Standard: 6.G.A.1
DOK 2

18 What is the area of the parallelogram?
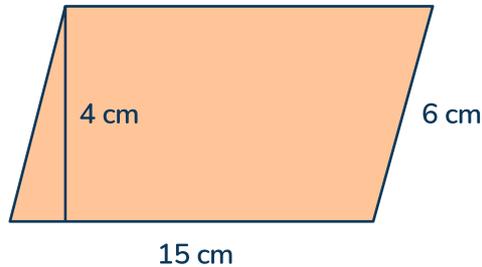
A. 30 cm²

B. 45 cm²

C. 60 cm²

D. 90 cm²

Standard: 6.RP.A.2
DOK 2

19 Devon goes to the store and buys the following:
- 4 pounds of almonds for $13.12
- 3 pounds of cashews for $8.34
- 5 pounds of chocolate covered pretzels for $21.40
- 2 pounds of liquorice for $5.60

Which food item is the cheapest per pound?

A. almonds

B. liquorice

C. chocolate covered pretzels

D. cashews

Standard: 6.RP.A.3c
DOK 2

20 120 students either play field hockey or tennis. If 40% of the students play tennis, how many students play field hockey?

A. 48 students
B. 72 students
C. 20 students
D. 100 students

Standard: 6.RP.A.3a
DOK 2

21 There are yellow marbles and green marbles in a bag. The ratio of yellow marbles to green marbles is 2:7. There are 25 more green marbles than yellow marbles. How many yellow marbles are in the bag?

A. 10
B. 2
C. 9
D. 8

Standard: 6.EE.B.5

DOK 2

22 What is the value for x in the equation $2x = 19$

        A. $x = 8\frac{1}{2}$

        B. $x = 9$

        C. $x = 9\frac{1}{2}$

        D. $x = 8$

Standard: 6.NS.7d

DOK 1

23 Select the answer that has the following in order from least to greatest.

|-7|, |-9|, -8, 0

        A. 0, -8,| -7|,| -9|

        B. -8,0, |-7|, |-9|

        C. |-9|, |-7|, 0, -8

        D.|-9|, -8, |-7|, 0

Standard: 6.NS.6c

DOK 2

24   The temperature on a given day in the arctic circle is -17° F. What change in the temperature would bring the temperature to 0° F?

     A. 0

     B. -17

     C. 18

     D. 17

Standard: 6.G.A.1

DOK 2

25   Find the area of the shaded region in the diagram below.
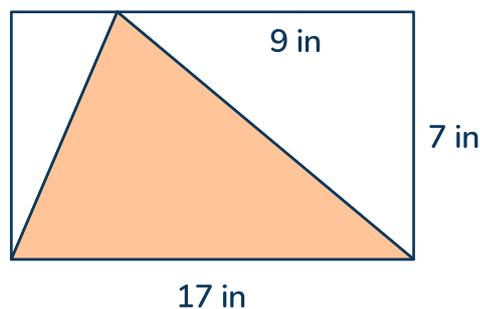
     A. 59.5 in²

     B. 63 in²

     C. 119 in²

     D. 31.5 in²

Standard: 6.NS.B.4

DOK 1

26 What is the greatest common factor of 18 and 36?

      A. 36

      B. 9

      C. 18

      D. 6

Standard: 6.EE.4

DOK 2

27 Which expressions are equivalent?

      A. $2x + 2x = 4x^2$

      B. $15x + 30 = 15(x + 2)$

      C. $3x^2 + 5x = 8x^3$

      D. $3(x - 8) = 3x - 11$

Standard: 6.RP.A.3a
DOK 2

28 Linda runs at a constant rate of 2 miles for every 16 minutes. Which ratio table represents the relationship between the time (in minutes) she runs and the distance she covers (in miles)?

A

Minutes	Miles
16	2
48	4
64	8
80	10

C

Minutes	Miles
16	2
32	2
64	2
80	2

B

Minutes	Miles
16	2
32	4
64	8
128	16

D

| Minutes	Miles
16	2
32	4
64	16
80	32

Standard: 6.RP.A.3a
DOK 2

29   Jorga jumps rope at a rate of 15 jumps in 25 seconds. At this rate, approximately how many times will Jorga jump in 175 seconds?

A. 105 times
B. 100 times
C. 45 times
D. 60 times

Standard: 6.EE.B.6
DOK 2

30   Which expression represents the perimeter of the irregular figure below?
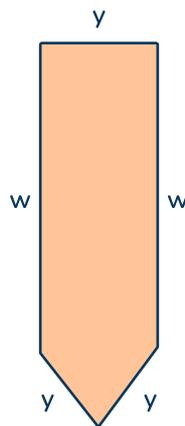
A. $w^2 + y^3$
B. $w + y$
C. $2w + 3y$
D. $5(w + y)$

Session 2:

5 Multiple Choice

8 Constructed Response

Standard: 6.NS.C.6

DOK 2

31   The coldest temperature ever recorded on earth was about -128° F and the hottest temperature ever recorded on earth was about 130° F. Which number line represents the range of temperatures recorded on earth?

A.

| -130 | -110 | -90 | -70 | -50 | -30 | -10 | 10 | 30 | 50 | 70 | 90 | 110 | 130 |

B.

| -130 | -110 | -90 | -70 | -50 | -30 | -10 | 10 | 30 | 50 | 70 | 90 | 110 | 130 |

C.

| -130 | -110 | -90 | -70 | -50 | -30 | -10 | 10 | 30 | 50 | 70 | 90 | 110 | 130 |

D.

| -130 | -110 | -90 | -70 | -50 | -30 | -10 | 10 | 30 | 50 | 70 | 90 | 110 | 130 |
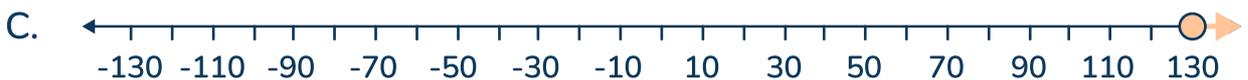
Standard: 6.EE.B.5
DOK 2

32   Which value for x will make the inequality true?
$$x - 7 > 9$$

A. 16
B. 8
C. 20
D. 9

Standard: 6.RP.A.3c
DOK 2

33   Julie keeps a coin collection. She keeps 8 of her oldest coins in a separate box. These 8 coins represent 10% of her collection. What is the total number of coins in Julie's collection?

A. 800 coins
B. 8000 coins
C. 80 coins
D. 8 coins

Standard: 6.RP.A.1
DOK 1

34 A sandwich shop sold 15 turkey club sandwiches and 9 ham and cheese sandwiches. What is the ratio of the number of ham and cheese sandwiches to the number of turkey club sandwiches?

      A. 15:9
   B. 9:15
      C. 15:26
      D. 9:26

Standard: 6.EE.C.9
DOK 2

35 Gigi speed walks at a constant rate. The equation represents the relationship between the time, t, she walks in minutes and the distance, d, she walks in miles.

$$d = \frac{1}{10}t$$

Which graph represents the relationship between the amount of time Gigi walks and the distance she walks?

A

C

B

D
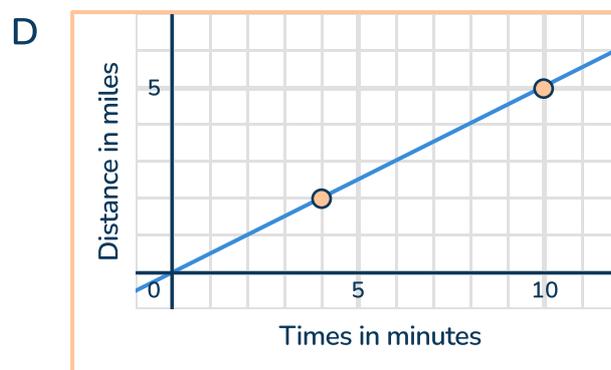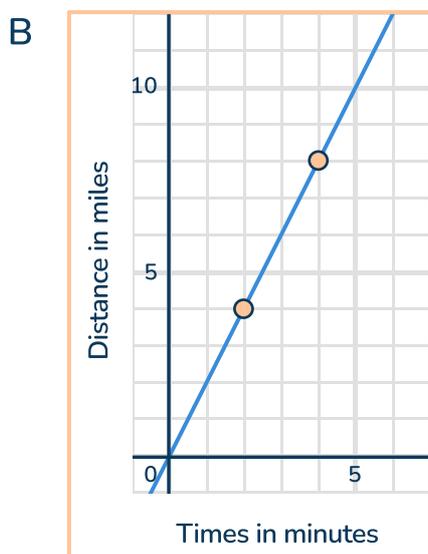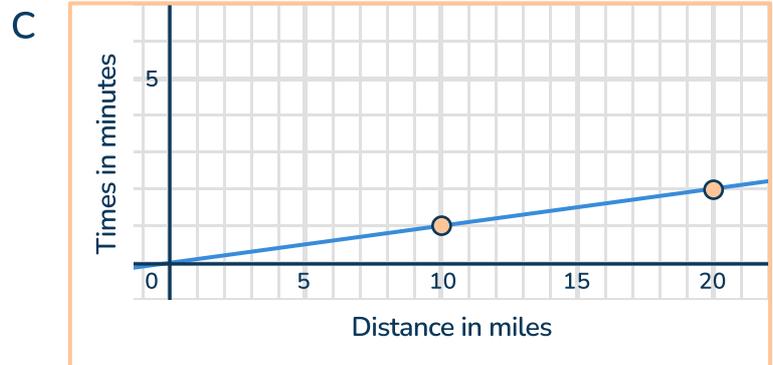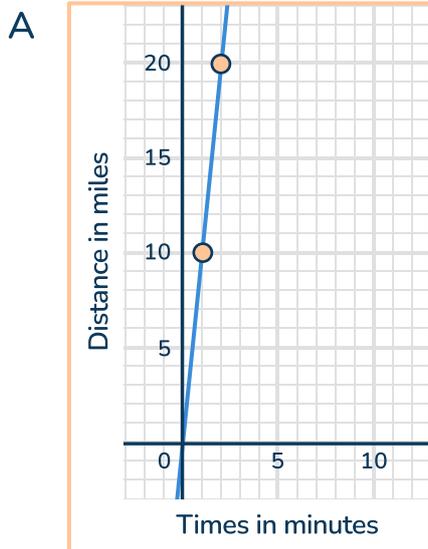
Constructed response questions:

Standard: 6.G.2
DOK 2
Constructed response - 1 point

36   Find the volume of a cube with side length $2\frac{1}{2}$ cm

Volume = _____

Standard: 6.NS.7b
DOK 2
Constructed response - 1 point

37   Two depths below sea level are recorded below. Write an inequality statement comparing the depths.

-245 ft and -267 ft

Standard: 6.RP.3b

DOK 3

Constructed response - 2 points

38 The tables below show the amount of time it took Randy and Claudia to pack boxes.

Claudia	
Time (minutes)	Number of boxes
5	4
10	8
15	12

Rand	
Time (minutes)	Number of boxes
7	6
14	12
21	18

If they both maintain this rate, how many boxes do they pack in 35 minutes and who has the faster rate?

Standard: 6.EE.A.3

DOK 3

Constructed response - 2 points

39 Joe and Brad evaluate the expression 4(13-9)
- Joe evaluates the expression by multiplying 4 times 13, 4 times 9 and then subtracting the products.
- Brad evaluates the expression by subtracting 9 from 13 and then multiplying the difference by 4.

Who is correct? Provide an explanation.

Standard: 6.EE.B.7

DOK 3

Constructed response - 2 point

40 Jeanie has 16 marbles. This is 4 times as many marbles as Donny has. Write and solve an equation to determine the amount of marbles, m, that Donny has.

Standard: 6.NS.8

DOK 3

Constructed Response - 2 points

41 The graph below represents the coordinates where a farmer puts stakes in the ground to build a fence. What would the perimeter of the fence be?
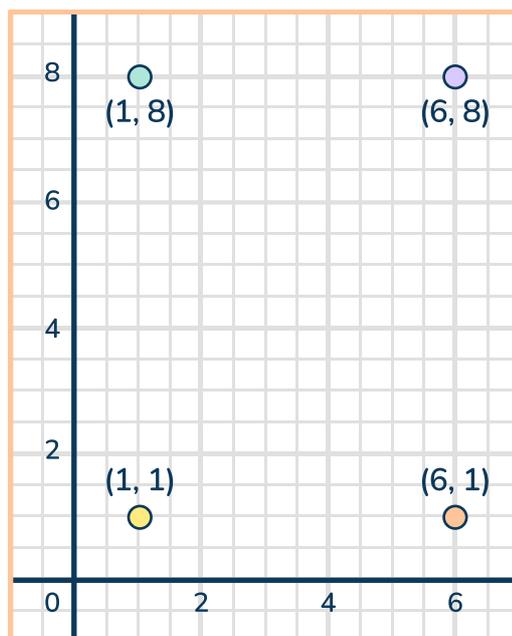
Standard: 6.G.2

DOK 3

Constructed response - 2 points

42   Katie is trying to figure out which box contains more space. The first box has a base area of 32 in². The height of the box is $12\frac{1}{3}$ in. The second box has a base area of 36 in² and a height of $9\frac{1}{2}$ in. Which box has the greater interior space?

Standard: 6.EE.2

DOK 2

Constructed response - 2 points

43   Find the value of the expression.

$$4(8 - 5)^3 - 42 \div 6$$

Standard: 6.EE.9

DOK 4

Constructed Response - 3 points

44 Rosalind makes homemade peach jam every August. The graph below shows the relationship between the number of jars of jam, j, she makes and the number of peaches, p, needed per jar.
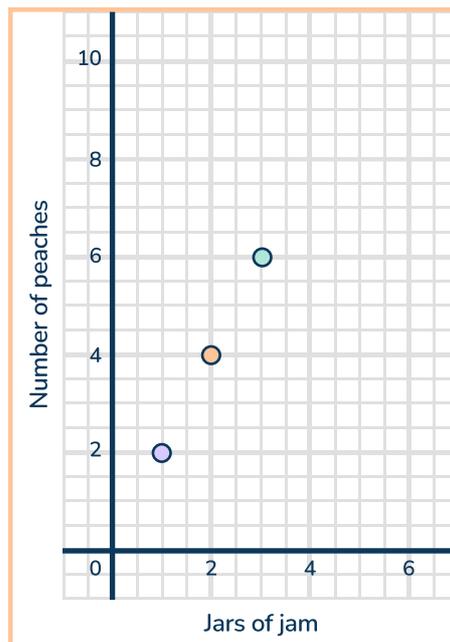
Part A: Explain the relationship between the jars of jam and the number of peaches.

Part B: Identify the independent and dependent variables.

Part C: How many peaches will be needed for 12 jars of jam?

Answer Key - Multiple Choice

Item number	Correct answer	Standard(s)	DOK
1	C	**6.EE.2a**	1
2	B	**6.RP.3a**	1
3	A	**6.RP.3b**	1
4	D	**6.G.4**	2
5	C	**6.EE.1**	1
6	D	**6.RP.3b**	1
7	B	**6.NS.4**	1
8	D	**6.NS.6c**	2
9	A	**6.NS.8**	2
10	A	**6.RP.3c**	2
11	C	**6.EE.3**	2
12	D	**6.G.3**	1
13	A	**6.G.2**	1
14	C	**6.RP.3**	2
15	A	**6.EE.9**	2
16	D	**6.EE.8**	2
17	B	**6.EE.2c**	2
18	C	**6.G.A.1**	1
19	D	**6.RP.A.2**	3
20	B	**6.RP.A.3c**	2

New York Practice Test | Grade 6 | Answers

Item number	Correct answer	Standard(s)	DOK
21	A	**6.RP.A.3a**	2
22	C	**6.EE.B.5**	2
23	B	**6.NS.7d**	1
24	D	**6.NS.6c**	2
25	A	**6.G.A.1**	2
26	C	**6.NS.B.4**	1
27	B	**6.EE.4**	2
28	B	**6.RP.A.3a**	2
29	A	**6.RP.A.3a**	2
30	C	**6.EE.B.6**	2
31	A	**6.NS.C.6**	2
32	C	**6.EE.B.5**	2
33	C	**6.RP.A.3c**	2
34	B	**6.RP.A.1**	1
35	C	**6.EE.C.9**	3
36	Answer on rubric	**6.G.2**	2
37	Answer on rubric	**6.NS.7b**	2
38	Answer on rubric	**6.RP.3b**	3
39	Answer on rubric	**6.EE.A.3**	3
40	Answer on rubric	**6.EE.B.7**	3

Item number	Correct answer	Standard(s)	DOK
41	Answer on rubric	**6.NS.8**	3
42	Answer on rubric	**6.G.2**	3
43	Answer on rubric	**6.EE.2**	2
44	Answer on rubric	**6.EE.9**	4

Breakdown of Assessment				
Ratios & Proportional Relationships	Expressions, Equations, and Inequalities	The Number System	Geometry	Statistics and Probability
30%	35%	20%	16%	Not tested at this grade level

Rationales

Item	KEY	Rationale
1	A is incorrect	Students may choose this answer if they do not realize from the wording that 15 is subtracted from the quotient.
	B is incorrect	Students may choose this answer if they struggle with translating words into algebraic expressions.
	C is correct	This is the correct answer. 15 is less than the quotient of 7 and f is the same as $\frac{f}{7}$ - 15 Quotient means division, and 15 is subtracted from that quotient.
	D is incorrect	Students may choose this answer if they struggle with translating words into algebraic expressions.

Item	KEY	Rationale
2	A is incorrect	Students may choose this answer if they can't identify the pattern in the ratio table.
	B is correct	This is the correct answer. The missing numbers in the table are 15, 42, 56 because 7:5 = 21:15 = 42:30 = 56:40
	C is incorrect	Students may choose this answer if they can't identify the pattern in the ratio table.
	D is incorrect	Students may choose this answer if they can't identify the pattern in the ratio table.

Item	KEY	Rationale
3	A is correct	This is the correct answer. The unit rate of miles per hour is 16.5 ÷ 2.2 = 7.5 7.5 miles per hour
	B is incorrect	Students may choose this answer if they do the unit rate of hours per mile 2.2 ÷ 7.5
	C is incorrect	Students may choose this answer if they do the unit rate of hours per mile 2.2 ÷ 7.5
	D is incorrect	Students may choose this answer if they round down to 7 miles per hour

Item	KEY	Rationale
4	A is incorrect	Students may choose this answer if they do not find the area of each of the faces.
	B is incorrect	Students may choose this answer if they only include the area of 1 of the triangular bases and not both of them in the surface area.
	C is incorrect	Students may choose this answer if they do not find the area of each of the faces.
	D is correct	This is the correct answer. Two rectangular faces that are 12 x 13 2 x 12 x 13 = 312 in² Two triangular bases. $2 \times \left(\frac{1}{2} \times 8 \times 5 \right) = 40$ in² 1 rectangular face that is 8 x 12 8 x 12 = 96 in² Surface area = 448 in²

New York Practice Test | Grade 6 | Rationales

Item	KEY	Rationale
5	A is incorrect	Students may choose this answer if they make a calculation error or do not have a strong command of math facts and the order of operations.
	B is incorrect	Students may choose this answer if they multiply 4 by 2 instead of raising 4 to the second power.
	C is correct	This is the correct answer. $\dfrac{2(8-4)+4^2}{6}$ $\dfrac{2(4)+16}{6}$ $\dfrac{8+16}{6}$ $\dfrac{24}{6}=4$
	D is incorrect	Students may choose this answer if they make a calculation error or do not have a strong command of math facts and the order of operations.

Item	KEY	Rationale
6	A is incorrect	Students may choose this answer if they struggle with finding the unit rate, meaning they divided, $5.6 \div 17.92$
	B is incorrect	Students may choose this answer if they struggle with finding the unit rate, meaning they divided, $5.6 \div 17.92$
	C is incorrect	Students may choose this answer if they make an incorrect calculation.
	D is correct	This is the correct answer. $17.92 \div 5.6 = 3.20$ $3.20 peanuts per pound

Item	KEY	Rationale
7	A is incorrect	Students may choose this answer if they confuse the GCF with the LCM.
	B is correct	This is the correct answer. The least common multiple of 8 and 12 is 24. 8 = 2 x 2 x 2 12 = 2 x 2 x 3 LCM = 2 x 2 x 2 x 3 = 24
	C is incorrect	Students may choose this answer because it is a multiple of both numbers but not the least common multiple.
	D is incorrect	Students may choose this answer because it is a multiple of both numbers but not the least common multiple.

Item	KEY	Rationale
8	A is incorrect	Students may choose this answer if they had difficulty visualizing above and below sea level like a vertical number line.
	B is incorrect	Students may choose this answer if they had difficulty visualizing above and below sea level like a vertical number line.
	C is incorrect	Students may choose this answer if they had difficulty visualizing above and below sea level like a vertical number line.
	D is correct	This is the correct answer. -157 is closest to sea level because on a number line it would be closest to 0 out of the other numbers of (4,848, 10,152, and -184)

Item	KEY	Rationale
9	A is correct	This is the correct answer. Plotting the points, you can count that there are 14 units between point A and point B.
	B is incorrect	Students may choose this answer if they count the units incorrectly.
	C is incorrect	Students may choose this answer if they subtract 8 - 6.
	D is incorrect	Students may choose this answer if they subtract -8 + 6.

Item	KEY	Rationale
10	A is correct	This is the correct answer. 25% of 60 is 15. Proportions can help solve this:
	B is incorrect	Students may choose this answer if they take 25% of 15. $\dfrac{25}{100} = \dfrac{15}{x}$ $25x = 1500$ $x = 60$
	C is incorrect	Students may choose this answer if they struggle with percents of numbers.
	D is incorrect	Students may choose this answer if they struggle with percents of numbers.

Item	KEY	Rationale
11	A is incorrect	Students may choose this answer if they do not have a strong understanding of the distributive property and add the numbers.
	B is incorrect	Students may choose this answer if they do not have a strong understanding of the distributive property and add the numbers.
	C is correct	This is the correct answer. $6(7f - 9) = 42f - 54$
	D is incorrect	Students may choose this answer if they make a mistake with the signs of numbers when multiplying.

Item	KEY	Rationale
12	A is incorrect	Students may choose this answer if they do not have a strong understanding of how to find the area of triangles and forget to multiply by ½.
	B is incorrect	Students may choose this answer if they cannot determine what is the height of the triangle and what is the base.
	C is incorrect	Students may choose this answer if they cannot determine what is the height of the triangle and what is the base.
	D is correct	This is the correct answer. $A = \frac{1}{2} \times b \times h$ $A = \frac{1}{2} \times 6 \times 8$ (height and base are perpendicular) $A = 24$ ft²

Item	KEY	Rationale
13	A is correct	This is the correct answer. $V = l \times w \times h$ $V = 2\frac{1}{5} \times 1\frac{1}{4} \times 1\frac{1}{4}$ $V = \frac{11}{5} \times \frac{5}{4} \times \frac{5}{4}$ $V = \frac{275}{80} = 3\frac{35}{80} = 3\frac{7}{16}\text{in}^3$
	B is incorrect	Students may choose this answer if they do not have a strong command of multiplying mixed numbers.
	C is incorrect	Students may choose this answer if they do not have a strong command of multiplying mixed numbers.
	D is incorrect	Students may choose this answer if they do not have a strong command of multiplying mixed numbers.

Item	KEY	Rationale
14	A is incorrect	Students may choose this answer if they do have a strong command of finding equivalent ratios.
	B is incorrect	Students may choose this answer if they sum the total number of boys and girls in the class.
	C is correct	This is the correct answer. 2:5 = 8:20 Multiplying each number of the original ratio by 4.
	D is incorrect	Students may choose this answer if they do not have a strong command of finding equivalent ratios.

Item	KEY	Rationale
15	A is correct	This is the correct answer. $175.15 is the total of the gym fee and $50 times the number of private lessons. $175.15 = g + ($50 × p)
	B is incorrect	Students may choose this answer if they do not have a strong command of translating real world situations into algebraic equations.
	C is incorrect	Students may choose this answer if they do not have a strong command of translating real world situations into algebraic equations.
	D is incorrect	Students may choose this answer if they do not have a strong command of translating real world situations into algebraic equations.

Item	KEY	Rationale
16	A is incorrect	Students may choose this answer if they do not have a strong command of inequalities.
	B is incorrect	Students may choose this answer if they confuse > with ≥
	C is incorrect	Students may choose this answer if they do not have a strong command of inequalities.
	D is correct	This is the correct answer. The graphed number line shows all the numbers greater than or equal to -3.

Item	KEY	Rationale
17	A is incorrect	Students may choose this answer if they struggle with fraction multiplication.
	B is correct	This is the correct answer. $\frac{1}{4}$ (20) + (2)³ 5+8 =13
	C is incorrect	Students may choose this answer if they struggle with exponents and multiply 2 x 3 instead of raising 2 to the third power.
	D is incorrect	Students may choose this answer if they struggle with fraction multiplication and exponents.

Item	KEY	Rationale
18	A is incorrect	Students may choose this answer if they apply the formula for finding the area of a triangle.
	B is incorrect	Students may choose this answer if they apply the formula for finding the area of a triangle.
	C is correct	This is the correct answer. A = b x h A = 4 x 15 A = 60 cm²
	D is incorrect	Students may choose this answer if they use the incorrect dimensions.

Item	KEY	Rationale
19	A is incorrect	Students may choose this answer if they struggle with finding and comparing unit rate.
	B is incorrect	Students may choose this answer if they struggle with finding and comparing unit rate.
	C is incorrect	Students may choose this answer if they struggle with finding and comparing unit rate.
	D is correct	This is the correct answer. The unit rates are: Almonds: 13.12 ÷ 4 = 3.28 Cashews: 8.34 ÷ 3 = 2.78 Chocolate covered pretzels: 21.40 ÷ 5 = 4.28 Liquorice: 5.50 ÷ 2 = 2.80 Cashews are the cheapest per pound at $2.78

Item	KEY	Rationale
20	A is incorrect	Students may choose this answer if they only find the amount of students that play tennis.
	B is correct	This is the correct answer. 40% of 120 is 48. 48 is the amount of students that play tennis. 120 - 48 = 72 72 students play field hockey
	C is incorrect	Students may choose this answer if they do not have a strong understanding of percents.
	D is incorrect	Students may choose this answer if they do not have a strong understanding of percents.

Item	KEY	Rationale
21	A is correct	This is the correct answer. 2:7 = 4:14 = 6:21 = 8:28 = 10:35 The difference between 2:7 is 5 The difference between 4:14 is 10 The difference between 8:28 is 20 The difference between 10:35 is 25 So, there are 10 yellow marbles.
	B is incorrect	Students may choose this answer if they do not have a strong command of ratios and equivalent ratios.
	C is incorrect	Students may choose this answer if they do not have a strong command of ratios and equivalent ratios.
	D is incorrect	Students may choose this answer if they do not have a strong command of ratios and equivalent ratios.

Item	KEY	Rationale
22	A is incorrect	Students may choose this answer if they do not have a strong command of solving equations.
	B is incorrect	Students may choose this answer if they do not have a strong command of solving equations.
	C is correct	This is the correct answer. $2x = 19$ $2x \div 2 = 19 \div 2$ $x = 9\frac{1}{2}$
	D is incorrect	Students may choose this answer if they do not have a strong command of solving equations.

Item	KEY	Rationale
23	A is incorrect	Students may choose this answer if they struggle with absolute values of numbers.
	B is correct	This is the correct answer. -8,0,| -7|, |-9 |= -8, 0, 7, 9
	C is incorrect	Students may choose this answer if they struggle with absolute values of numbers.
	D is incorrect	Students may choose this answer if they struggle with absolute values of numbers.

Item	KEY	Rationale
24	A is incorrect	Students may choose this answer if they do not have a strong command of numbers, their opposites, and what their values mean on a number line.
	B is incorrect	Students may choose this answer if they do not have a strong command of numbers, their opposites, and what their values mean on a number line.
	C is incorrect	Students may choose this answer if they do not have a strong command of numbers, their opposites, and what their values mean on a number line.
	D is correct	This is the correct answer. The opposite of -17 is 17 which means they are both 17 units from 0 on the number line. So, to get from -17 to 0 on the number line move 17 units in the positive direction.

Item	KEY	Rationale
25	A is correct	This is the correct answer. The dimensions of the shaded triangle height = 7 and base = 17. $A = \frac{1}{2} b \times h$ $A = \frac{1}{2} \times 17 \times 7$ A=59.5 in²
	B is incorrect	Students may choose this answer if they use the wrong dimensions.
	C is incorrect	Students may choose this answer if they use the formula for finding the area of a rectangle.
	D is incorrect	Students may choose this answer if they use the wrong dimensions.

Item	KEY	Rationale
26	A is incorrect	Students may choose this answer if they find the LCM instead of the GCF.
	B is incorrect	Students may choose this answer because it is a factor of both 18 and 36, but not the greatest common factor.
	C is correct	This is the correct answer. 18 = 2 x 3 x 3 36 = 2 x 2 x 3 x 3 GCF = 2 x 3 x 3 = 18
	D is incorrect	Students may choose this answer because it is a factor of both 18 and 36, but not the greatest common factor.

Item	KEY	Rationale
27	A is incorrect	Students may choose this answer if they do not have a strong command of exponents.
	B is correct	This is the correct answer. Using the distributive property, $15x + 30 = 15(x + 2)$
	C is incorrect	Students may choose this answer if they do not have a strong command of exponents.
	D is incorrect	Students may choose this answer if they do not have strong command of the distributive property.

Item	KEY	Rationale
28	A is incorrect	Students may choose this answer if they do not notice that 48:4 is not an 8:1 relationship.
	B is correct	This is the correct answer. Each of the ratios simplify to be 8:1 meaning that they are all equivalent.
	C is incorrect	Students may choose this answer if they struggle with equivalent ratios.
	D is incorrect	Students may choose this answer if they struggle with equivalent ratios.

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Item	KEY	Rationale
29	A is correct	This is the correct answer. 15 jumps per 25 seconds is a 15:25 ratio. 105:175 is an equivalent ratio because multiplying 15 by 7 and 25 by 7 is 105 and 175. So, Jorga jumps 105 times in 175 seconds.
	B is incorrect	Students may choose this answer if they struggle with making ratio comparisons and finding equivalent ratios.
	C is incorrect	Students may choose this answer if they struggle with making ratio comparisons and finding equivalent ratios.
	D is incorrect	Students may choose this answer if they struggle with making ratio comparisons and finding equivalent ratios.

Item	KEY	Rationale
30	A is incorrect	Students may choose this answer if they struggle with writing, simplifying algebraic expressions and exponents.
	B is incorrect	Students may choose this answer if they struggle with writing and simplifying algebraic expressions.
	C is correct	This is the correct answer. The perimeter is represented by adding all the sides together. $P = w + w + y + y + y$ $P = 2w + 3y$
	D is incorrect	Students may choose this answer if they struggle with writing and simplifying algebraic expressions.

Item	KEY	Rationale
31	A is correct	This is the correct answer. The number line graph is showing all the numbers in between -128 and 130, including -128 and 130.
	B is incorrect	Students may choose this answer because there are closed points on -128 and 130 but the number line graph does not show all the numbers in between.
	C is incorrect	Students may choose this answer if they do not have a strong understanding of number lines and number sets.
	D is incorrect	Students may choose this answer because the number line graph is showing all the numbers in between -128 and 130, however it does not include those values.

Item	KEY	Rationale
32	A is incorrect	Students may choose this answer because if it was an equation 16 would be the value for x
	B is incorrect	Students may choose this answer if they mix up less than and greater than.
	C is correct	This is the correct answer. 20 makes the inequality true.
	D is incorrect	Students may choose this answer if they mix up less than and greater than.

Item	KEY	Rationale
33	A is incorrect	Students may choose this answer if they do not have a strong command of percents.
	B is incorrect	Students may choose this answer if they do not have a strong command of percents.
	C is correct	This is the correct answer. 10% of 80 is 8 $\dfrac{10}{100} = \dfrac{8}{80}$
	D is incorrect	Students may choose this answer if they do not have a strong command of percents.

Item	KEY	Rationale
34	A is incorrect	Students may choose this answer if they confuse the comparison.
	B is correct	This is the correct answer. The ratio of ham and cheese to turkey club is 9:15.
	C is incorrect	Students may choose this answer if they confuse the comparison.
	D is incorrect	Students may choose this answer if they confuse the comparison.

Item	KEY	Rationale
35	A is incorrect	Students may choose this answer because of the point (10,1) and (20, 2). This graph represents $d = 10t$
	B is incorrect	Students may choose this graph if they do not have a strong command of linear relationships on a graph or do not see the pattern in the relationship between distance and time. This graph represents $d = 2t$.
	C is correct	This is the correct answer. The linear graph represents the correct relationship between distance and time. For every 10 minutes, Gigi walks 1 mile.
	D is incorrect	Students may choose this graph if they do not have a strong command of linear relationships on a graph or do not see the pattern in the relationship between distance and time. This graph represents $d = ½ t$

Item	KEY	Rationale
36	1 point	The student correctly finds the volume to be: $15\frac{5}{8}$ cm³
	0 points	The student does not show an understanding of how to find the total volume.

Item	KEY	Rationale
37	1 point	The student correctly makes the comparison. - 245 > - 267 OR - 267 < -245
	0 points	The students do not demonstrate understanding.

Item	KEY	Rationale
38	2 point	To receive 2 points the student has to correctly identify and correct the mistake. The student needs to continue both tables or identify the pattern in the tables to figure out the amount of boxes Claudia packs in 35 minutes and the amount of boxes Randy packs in 35 minutes. Claudia = 35 minutes packs 28 boxes. Randy = 35 minutes packs 30 boxes. Randy packs at the faster rate.
	1 point	To receive 1 point the student identifies that Randy packs more boxes OR The student identifies that amount of boxes each pack.
	0 points	The student does not demonstrate understanding.

Item	KEY	Rationale
39	2 point	To receive 2 points, students need to identify that both Joe and Brad are correct. Joe applied the distributive property to get the answer and Brad used order of operations. 4(13 - 9) = 52 - 36 = 16 4(13 - 9) = 4(4) = 16
	1 point	Students will receive 1 point if they identify that both Joe and Brad are correct. OR they provide a partial correct answer.
	0 points	Students will receive 0 points if they leave the response blank, or if they do not write a correct expression or solve correctly.

Item	KEY	Rationale
40	2 point	To receive 2 points the students need to be able to write the correct equation and solve it correctly. $16 = 4m$ $m = 4$
	1 point	To receive 1 point the student has the right equation but solves it incorrectly OR has the incorrect equation but solves it correctly.
	0 points	The student does not demonstrate understanding.

Item	KEY	Rationale
41	2 points	To receive 2 points. Student has to correctly calculate the perimeter of the fencing. Perimeter = 7 + 7 + 5 + 5 Perimeter = 24 units
	1 point	To receive 1 point. The student makes a minor calculation error.
	0 points	Students will receive 0 points if they leave the response blank, or do not demonstrate understanding.

Item	KEY	Rationale
42	2 points	To receive 2 points, students need to correctly calculate that Box 1 has a volume of $394\frac{2}{3}$in³ Box 2 has a volume of 342 in³ Box 1 has a greater interior space since the volume is greater.
	1 point	Students will receive 1 point if they make a minor mistake in the calculations.
	0 points	Students will receive 0 points if they leave the response blank, or cannot demonstrate understanding.

Item	KEY	Rationale
43	2 points	To receive 2 points the student needs to evaluate the expression correctly. $4(8 - 5)^3 - 42 \div 6$ $4(3)^3 - 7$ $4(27) - 7$ $108 - 7 = 101$
	1 point	Students will receive 1 point if they make a minor mistake in the calculation.
	0 points	Students will receive 0 points if they leave the response blank, or they do not demonstrate understanding.

Item	KEY	Rationale
44	3 points	To get 3 points, a student needs to answer all three parts correctly. Part A: The amount of peaches needed is 2x the amount of jars. Part B: j, the number of jars is the independent variable and p, the number of peaches is the dependent variable. Part C: 12 x 2 = 24 24 peaches are needed.
	2 points	For students to get 2 points, they need to answer two of the three parts correctly.
	1 point	For students to get 1 point, they need to answer one of the three parts correctly.
	0 points	Students will receive 0 points if they leave the response blank, or if they do not demonstrate understanding.

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