

2017 STAAR Grade 3 Math Rationales

Item #	Response A/F	Response B/G	Response C/H	Response D/J
1	A is incorrect because 197 should be subtracted from 736, and 150 should be added, not subtracted.	B is correct because 197 should be subtracted from 736, and 150 should be added.	C is incorrect because 197 should be subtracted from 736, not added, and 150 should be added.	D is incorrect because 197 should be subtracted from 736, not added, and 150 should be added, not subtracted.
2	F is incorrect because point H is not halfway between 0 and 1 foot. It is about 1/4 of the way.	G is incorrect because point H is not halfway between 0 and 1 foot. It is 1/3 of the way.	H is incorrect because point H is not halfway between 0 and 1 foot. It is 1/4 of the way.	J is correct because point H is halfway between 0 and 1 foot.
3	A is incorrect because the area is $5 \times 3 = 15$, not $5 + 3 = 8$.	B is correct because there are 5 square units in the first row, and there are three rows. $5 \times 3 = 15$.	C is incorrect because the area is $5 \times 3 = 15$, not $4 \times 3 = 12$.	D is incorrect because the area is $5 \times 3 = 15$, not $4 \times 4 = 16$.
4	F is incorrect because it represents \$6.47.	G is incorrect because it represents \$6.47.	H is correct because it represents \$6.37, not \$6.47.	J is incorrect because it represents \$6.47.
5	A; The correct answer is 11 because $99 \div 9 = 11$.	B; Students may have multiplied $99 \times 9 = 891$ or added $99 + 9 = 108$ or subtracted $99 - 9 = 90$.		
6	F is incorrect because it lists 10, an even number.	G is correct because it lists all the odd numbers from the jerseys.	H is incorrect because it lists 50 and 52, both even numbers.	J is incorrect because it lists 10, 50, and 52, all even numbers.
7	A is correct because $117 + 58 = 175$ and $300 - 175 = 125$.	B is incorrect because $117 + 58 = 175$ and $300 - 175 = 125$, not 235.	C is incorrect because 117 and 58 were added to 300. They should be subtracted from 300.	D is incorrect because 117 and 58 were added to get 175, but 175 was not subtracted from 300.
8	F is incorrect because only one figure in Group X is a cylinder.	G is incorrect because only one figure in Group X is a cone.	H is correct because all the figures in Group Y are prisms.	J is incorrect because only two of the figures in Group Y are rectangular prisms.
9	A is correct because $7 \times 6 = 42$.	B is incorrect because $6 \times 6 = 36$, not 42.	C is incorrect because $42 \times 6 = 252$, not 42.	D is incorrect because $7 \times 7 = 49$, not 42.
10	F is incorrect because it shows an extra dot on 0 and no dot on 10.	G is incorrect because it only shows 9 dots. It does not show the additional dots when numbers are in the list more than once.	H is incorrect because it shows 20 dots. There is an extra dot on 2 and on 6.	J is correct because it shows all 18 dots in the correct place.
11	A is incorrect because $1/3$ is not greater than $6/8$.	B is correct because $2/3$ is greater than $2/8$.	C is incorrect because $1/3$ is not less than $2/8$.	D is incorrect because $2/3$ is not less than $2/8$.
12	F is correct because $9 \times 36 = 324$.	G is incorrect because $9 \times 36 = 324$, not 274.	H is incorrect because $9 \times 36 = 324$, not 84.	J is incorrect because $9 \times 36 = 324$, not 34.
13	A is incorrect because 50,744 is greater than 46,907. This comparison is true.	B is correct because 52,068 is not less than 50,744. This comparison is not true.	C is incorrect because 68,667 is greater than 43,204. This comparison is true.	D is incorrect because 43,204 is less than 46,907. This comparison is true.
14	F; The correct answer is 196 because $30 + 12 + 22 + 22 + 12 + 30 + 12 + 22 + 22 + 12 = 196$.	G; Students may have forgotten the left side of the figure and only added the numbers showing $30 + 12 + 22 + 22 + 12 + 30 = 128$.		

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15	A is incorrect because it shows a pattern of adding 2 to most of the number of dollars: $1 + 2 = 3$; $2 + 2 = 4$; and $4 + 2 = 6$.	B is correct because it shows a pattern of multiplying all of the number of dollars by 3: $1 \times 3 = 3$; $2 \times 3 = 6$; $4 \times 3 = 12$; and $5 \times 3 = 15$.	C is incorrect because it shows a pattern of subtracting 2 from most of the number of dollars: $3 - 2 = 1$; $4 - 2 = 2$; and $6 - 2 = 4$.	D is incorrect because it shows a pattern of dividing all of the number of dollars by 3: $3 \div 3 = 1$; $6 \div 3 = 2$; $12 \div 3 = 4$; and $15 \div 3 = 5$.
16	F is incorrect because $(3 \times 1,000) + (5 \times 1,000) + (8 \times 100) + (2 \times 10) + (4 \times 1) = 8,824$.	G is incorrect because $(35 \times 100) + (8 \times 10) + (24 \times 1) = 3,604$.	H is correct because $(3 \times 10,000) + (5 \times 1,000) + (8 \times 100) + (2 \times 10) + (4 \times 1) = 35,824$.	J is incorrect because $(5 \times 10,000) + (3 \times 1,000) + (8 \times 100) + (2 \times 10) + (4 \times 1) = 53,824$.
17	A is incorrect because 27 should be divided by 3, not multiplied by 2.	B is incorrect because 27 should be divided by 3, not multiplied.	C is incorrect because $27 \div 3 = 9$, not 7.	D is correct because $27 \div 3 = 9$.
18	F is correct because Debra finished 45 minutes after the race started at 9:45 and Shelly finished 20 minutes after Debra at 10:05.	G is incorrect because it only shows Shelly's time 20 minutes after the race started at 9:20.	H is incorrect because Debra finished 45 minutes after the race started at 9:45 and Shelly finished 20 minutes after Debra at 10:05, not 9:05.	J is incorrect because Debra finished 45 minutes after the race started at 9:45 and Shelly finished 20 minutes after Debra at 10:05, not 10:00.
19	A is incorrect because the two largest puzzles are $498 + 473 = 971$, not 961.	B is incorrect because the two largest puzzles are not $402 + 498 = 900$.	C is incorrect because the two largest puzzles are $498 + 473 = 971$, not 861.	D is correct because the two largest puzzles are $498 + 473 = 971$, which is "Not here."
20	F is incorrect because $3/6 \neq 3/4$.	G is incorrect because $7/8 \neq 3/4$.	H is correct because $6/8 = 3/4$.	J is incorrect because $5/6 \neq 3/4$.
21	A is incorrect because 6 should be multiplied by 5, not added, and then multiplied by 2, not added.	B is correct because 6 should be multiplied by 5 and then multiplied by 2.	C is incorrect because 6 should be multiplied by 5 and then multiplied by 2, not divided.	D is incorrect because 6 should be multiplied by 5, not added, and then multiplied by 2.
22	F is incorrect because it lists the two rectangles with an area that is not 36. The area of Rectangle W is $12 \times 6 = 72$, and the area of Rectangle Z is $10 \times 8 = 80$.	G is incorrect because it does not list Rectangle V with an area of $6 \times 6 = 36$.	H is incorrect because it lists the two rectangles with an area that is not 36. The area of Rectangle W is $12 \times 6 = 72$, and the area of Rectangle Z is $10 \times 8 = 80$.	J is correct because Rectangles V, X, and Y have an area of 36 square centimeters.
23	A is incorrect because 28 should be divided by 4, not added to 4.	B is incorrect because 28 should be divided by 4, not multiplied by 4.	C is correct because $28 \div 4 = 7$, and $4 \times 7 = 28$ is in the same fact family.	D is incorrect because 28 should be divided by 4, not subtracted by 4.
24	F; The correct answer is 108. Week 4 has a total of $8 \times 6 = 48$. Week 5 has a total of $5 \times 6 = 30$, and $30 + 3 = 33$. Week 6 has a total of $4 \times 6 = 24$, and $24 + 3 = 27$, ($48 + 33 + 27 = 108$).	G; Students may have used $6 \div 2 = 2$, not $6 \div 2 = 3$, for a total of $48 + 32 + 26 = 104$.		
25	A is incorrect because the table shows a pattern of adding 4, not a pattern of subtracting 2: $77 - 2 \neq 81$; $79 - 2 \neq 83$; $81 - 2 \neq 85$; and $83 - 2 \neq 87$.	B is incorrect because the table shows a pattern of adding 4, not a pattern of subtracting 4: $77 - 4 \neq 81$; $79 - 4 \neq 83$; $81 - 4 \neq 85$; and $83 - 4 \neq 87$.	C is incorrect because the table shows a pattern of adding 4, not a pattern of adding 2: $77 + 2 \neq 81$; $79 + 2 \neq 83$; $81 + 2 \neq 85$; and $83 + 2 \neq 87$.	D is correct because the table shows a pattern of adding 4: $77 + 4 = 81$; $79 + 4 = 83$; $81 + 4 = 85$; and $83 + 4 = 87$.

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26	F is incorrect because the last figure is not a rhombus, parallelogram, trapezoid, rectangle, or square.	G is correct because it shows a rectangle, square, rhombus, and trapezoid.	H is incorrect because the third figure is not a rhombus, parallelogram, trapezoid, rectangle, or square.	J is incorrect because the second figure is not a rhombus, parallelogram, trapezoid, rectangle, or square.
27	A is incorrect because 6,549 does not satisfy the first clue. 6,549 is not less than 6,538; it is greater than 6,538.	B is incorrect because 6,268 does not satisfy the second clue. 6,268 is not greater than 6,355; it is less than 6,355.	C is incorrect because 6,519 does not satisfy the third clue. 6,519 does not have a digit less than 5 in the hundreds place; it is equal to 5.	D is correct because 6,449 satisfies all three clues. 6,449 is less than 6,538; is greater than 6,355; and has a digit less than 5 in the hundreds place.
28	F is incorrect because 23 should be subtracted from 75, not added, to find how much more money is needed.	G is incorrect because 23 should be subtracted from 75, not added to 52, to find how much more money is needed.	H is correct because 23 should be subtracted from 75 to find how much more money is needed.	J is incorrect because 23 should be subtracted from 75, not 52, to find how much more money is needed.
29	A is correct because it shows the data from the graph.	B is incorrect because Monday shows 36, not 32; Wednesday shows 28, not 24; and Thursday shows 20, not 16.	C is incorrect because Monday shows 36, not 40; Wednesday shows 28, not 32; and Thursday shows 20, not 24.	D is incorrect because Monday shows 36, not 34; Wednesday shows 28, not 26; and Thursday shows 20, not 18.
30	F is incorrect because $18 \div 3 = 6$, not 3.	G is correct because $18 \div 3 = 6$.	H is incorrect because $18 \div 3 = 6$, not 19.	J is incorrect because 18 should be divided by 3, not multiplied by 3.
31	A is incorrect because the point is not past 5,000.	B is incorrect because the point is not before 4,000.	C is correct because the point is past the halfway mark and is closer to 5,000.	D is incorrect because the point is past the halfway mark and is farther from 4,000.
32	F is correct because $65 \div 5 = 13$.	G is incorrect because $65 \div 5 = 13$, not 15.	H is incorrect because 65 should be divided by 5, not added to 5.	J is incorrect because 65 should be divided by 5, not subtracted by 5.