

2017 STAAR Grade 4 Math Rationales

Item #	Response A/F	Response B/G	Response C/H	Response D/J
1	A is incorrect because $6/10 = 0.6$, not 6.1.	B is incorrect because $6/10 = 0.6$, not 6.01.	C is correct because $6/10 = 0.6$ since 6 is in the tenths place.	D is incorrect because 6 is in the hundredths place, not in the tenths place.
2	F is incorrect because $4.5 - 0.8 = 3.7$, not 4.3.	G is correct because the highest, 4.5, minus the lowest, 0.8, is equal to 3.7.	H is incorrect because $4.5 - 0.8 = 3.7$, not 0.25.	J is incorrect because $4.5 - 0.8 = 3.7$, not 0.47.
3	A is correct because $(3 \times 1,000)$ is 3,000, (1×100) is 100, and (7×10) is 70. All added together closely describe 3,175.02.	B is incorrect because $(3 \times 1,000)$ is 3,000, (1×100) is 100, and (7×10) is 70. All added together do not describe 93,075.01.	C is incorrect because $(3 \times 1,000)$ is 3,000, (1×100) is 100, and (7×10) is 70. All added together do not describe 3,651.70.	D is incorrect because $(3 \times 1,000)$ is 3,000, (1×100) is 100, and (7×10) is 70. All added together do not describe 9,372.01.
4	F is incorrect because $27 \times 16 = 432$, not 162.	G is incorrect because $27 \times 16 = 432$, not 189.	H is correct because $27 \times 16 = 432$.	J is incorrect because $27 \times 16 = 432$, which is answer choice C.
5	A is incorrect because none of the polygons have perpendicular lines. Only the octagon and hexagon have parallel lines but not the pentagon.	B is incorrect because none of the polygons have perpendicular lines.	C is incorrect because all the polygons have obtuse angles, but none of them have acute angles.	D is correct because all the polygons have obtuse angles.
6	F is correct because $7/10 - 3/10 = 4/10$.	G is incorrect because $7/10 - 3/10 = 4/10$, not $4/7$.	H is incorrect because $7/10 - 3/10 = 4/10$, not $7/10$.	J is incorrect because $7/10 - 3/10 = 4/10$, not $3/4$.
7	A; The correct answer is 560 because 557 rounded to the nearest ten is 560.	B; Students may have rounded to the nearest hundred to get 600.		
8	F is correct because the length is about 5 and the width is about 3. The area is closest to $5 \times 3 = 15$.	G is incorrect because the area is closest to $5 \times 3 = 15$, not 96.	H is incorrect because the area is closest to $5 \times 3 = 15$, not 24.	J is incorrect because the area is closest to $5 \times 3 = 15$, not 16.
9	A is incorrect because the numbers under the position column should be 1, 2, 3, and 4, not 38.	B is incorrect because the numbers under the position column should be 1, 2, 3, and 4, not 38, and the value column as 39, 40, 41, and 42, not 38.	C is incorrect because while the numbers under the position column are 1, 2, 3, and 4, following the rule, + 38 should generate the numbers under the value column as 39, 40, 41, and 42, not 38.	D is correct because the numbers under the position column are 1, 2, 3, and 4. Following the rule, + 38 generates a pattern equal to the numbers under the value column which are 39, 40, 41, and 42.
10	F is incorrect because the angle measures 23° . This measurement is true.	G is incorrect because the angle measures 23° . This measurement is true.	H is correct because the angle measures 28° . This measurement is NOT 23° .	J is incorrect because the angle measures 23° . This measurement is true.
11	A is correct because the number of cans collected in the first year, 8,917, and the number of cans collected in the second year, 7,639, should be subtracted from the total number of cans collected in three years, 25,413, to find the number of cans collected in the third year.	B is incorrect because the number of cans collected in the first year, 8,917, and the number of cans collected in the second year, 7,639, should be subtracted from the total number of cans collected in three years, 25,413, to find the number of cans collected in the third year.	C is incorrect because the number of cans collected in the first year, 8,917, and the number of cans collected in the second year, 7,639, should be subtracted from the total number of cans collected in three years, 25,413, to find the number of cans collected in the third year.	D is incorrect because the number of cans collected in the first year, 8,917, and the number of cans collected in the second year, 7,639, should be subtracted from the total number of cans collected in three years, 25,413, to find the number of cans collected in the third year.

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12	F is incorrect because point Q does not represent a distance of about 2.98 units from 0. Point Q represents a distance of about 1.01.	G is incorrect because point Q does not represent a distance of about 2.98 units from 0. Point Q represents a distance of about 2.5.	H is incorrect because point Q does not represent a distance of about 2.98 units from 0. Point Q represents a distance of about 1.98.	J is correct because point Q best represents a distance of about 2.98 units from 0.
13	A is incorrect because 10.29 should be subtracted from 21.75 , not added to 21.75 .	B is incorrect because $21.75 - 10.29 = 11.46$, not 21.75 , which is the money Zoey received from the sale of the snacks.	C is correct because $21.75 - 10.29 = 11.46$, which is Zoey's profit.	D is incorrect because $21.75 - 10.29 = 11.46$, not 10.29 , which is the cost of preparing the snacks.
14	F is incorrect because $4/5$ is greater than $5/10$, not less than $5/10$.	G is incorrect because $4/5$ is greater than $3/4$, not less than $3/4$.	H is incorrect because $3/4$ is greater than $5/10$, not less than $5/10$.	J is correct because $3/4$ is less than $4/5$.
15	A; The correct answer is 116 because the perimeter of the square playground is $4 \times 29 = 116$.	B; Students may have multiplied $29 \times 3 = 87$ or $29 \times 2 = 58$.		
16	F is incorrect because $76 \times 24 = 1,824$ should be divided by 3, not multiplied by 3.	G is incorrect because $76 \times 24 = 1,824$, not 300.	H is incorrect because $76 \times 24 = 1,824$, then $1,824 \div 3 = 608$, not 1,824.	J is correct because $76 \times 24 = 1,824$, then $1,824 \div 3 = 608$.
17	A is incorrect because it lists only Figure M but not Figure P and both have horizontal and vertical lines of symmetry.	B is incorrect because it lists Figure L, which has only a vertical line of symmetry, and Figure N, which has only a horizontal line of symmetry.	C is correct because Figure M and Figure P have both a horizontal line of symmetry and a vertical line of symmetry.	D is incorrect because it lists Figure L, which has only a vertical line of symmetry.
18	F is correct because $1/2 + 1/2 + 1/2 = 3/2$.	G is incorrect because $1/2 + 1/2 + 1/2 = 3/2$, not $2/3$.	H is incorrect because $1/2 + 1/2 + 1/2 = 3/2$, not $4/2$.	J is incorrect because $1/2 + 1/2 + 1/2 = 3/2$, not $3/6$.
19	A is incorrect because it shows seven dots on $1 \frac{1}{2}$; there should not be any dot on $1 \frac{1}{2}$.	B is incorrect because it shows no dot on $1/2$, it shows an extra dot on 1, no dots on $2 \frac{1}{2}$, seven extra dots on 3, no dots on $3 \frac{1}{2}$, and two extra dots on 4.	C is incorrect because it shows a dot on $1/4$, instead of $1/2$; seven dots on $2 \frac{1}{4}$, instead of $2 \frac{1}{2}$; and 2 dots on $3 \frac{1}{4}$, instead of $3 \frac{1}{2}$.	D is correct because it shows all 18 dots in the table correctly placed on the dot plot.
20	F is correct because a right triangle has exactly one pair of perpendicular sides.	G is incorrect because an acute triangle has no perpendicular sides.	H is incorrect because a rectangle has two pairs of perpendicular sides.	J is incorrect because a square has two pairs of perpendicular sides.
21	A is incorrect because $4.95 + (2 \times 0.65) + 1.85 = 8.10$, then $10.00 - 8.10 = 1.90$, not 2.55.	B is incorrect because $4.95 + (2 \times 0.65) + 1.85 = 8.10$, then $10.00 - 8.10 = 1.90$, not 2.10.	C is incorrect because $4.95 + (2 \times 0.65) + 1.85 = 8.10$, then $10.00 - 8.10 = 1.90$, not 3.45.	D is correct because $4.95 + (2 \times 0.65) + 1.85 = 8.10$, then $10.00 - 8.10 = 1.90$.
22	F is incorrect because the mass of a dictionary is about 2.5 kg, and the mass of a bicycle is greater than 2.5 kg.	G is correct because the mass of a dictionary is about 2.5 kg, and the mass of a pair of boots is closest to 2.5 kg.	H is incorrect because the mass of a dictionary is about 2.5 kg, and the mass of a refrigerator is greater than 2.5 kg.	J is incorrect because the mass of a dictionary is about 2.5 kg, and the mass of a bag of chips is less than 2.5 kg.
23	A is correct because $5/6$ is greater than $6/12$.	B is incorrect because $5/6$ is greater than $6/12$, not equal to $6/12$.	C is incorrect because $5/6$ is greater than $6/12$, not less than $6/12$.	D is incorrect because $5/6$ is greater than $6/12$ and is correctly represented in answer choice A.

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24	F is incorrect because $400 + 400 + 400 + 400 = 2,000$, not 400.	G is incorrect because $400 + 400 + 400 + 400 = 2,000$, not 1,800.	H is correct because $400 + 400 + 400 + 400 = 2,000$.	J is incorrect because $400 + 400 + 400 + 400 = 2,000$, not 2,500.
25	A is incorrect because $160^\circ - 50^\circ = 110^\circ$, not 70° .	B is incorrect because $160^\circ - 50^\circ = 110^\circ$, not 150° .	C is incorrect because $160^\circ - 50^\circ = 110^\circ$, not 30° .	D is correct because $160^\circ - 50^\circ = 110^\circ$.
26	F; The correct answer is 24 because $168 \div 7 = 24$.	G; Students may have added $168 + 7 = 175$.		
27	A is correct because (4×10) is 40, (7×1) is 7, and (6×0.01) is 0.06 which are added together and expressed as 47.06.	B is incorrect because (4×10) is 40, (7×1) is 7, and (6×0.1) is 0.6 which are added together and expressed as 47.6, not 47.06.	C is incorrect because (4×1) is 4, (7×1) is 7, and (0×1) is 0, and (6×1) is 6 which are added together and expressed as 17, not 47.06.	D is incorrect because (4×10) is 40, (7×1) is 7, (0×10) is 0, and (6×100) is 600 which are added together and expressed as 647, not 47.06.
28	F is incorrect because $128 \div 6 = 21$ remainder 2. Two fluid ounces are left, not 22.	G is incorrect because $128 \div 6 = 21$ remainder 2. Two fluid ounces are left, not 21.	H is incorrect because $128 \div 6 = 21$ remainder 2. Two fluid ounces are left, not 122.	J is correct because $128 \div 6 = 21$ remainder 2. Two fluid ounces are left.
29	A is correct because a right triangle has one 90° angle and two acute angles.	B is incorrect because an acute triangle does not have a 90° angle. It has three acute angles.	C is incorrect because an obtuse triangle does not have a 90° angle. It has two acute angles and one obtuse angle.	D is incorrect because a right triangle has two acute angles and one 90° angle, not three 90° angles.
30	F is incorrect because the numbers are not listed in order from least weight to greatest weight. Hippo Z should be third, not Hippo W.	G is incorrect because the numbers are not listed in order from least weight to greatest weight. Hippo Z should be third, not Hippo X.	H is incorrect because the numbers are listed in order from greatest weight to least weight. Hippo Z should be third, not Hippo Y.	J is correct because the numbers are listed in order from least weight to greatest weight. Hippo Z is third in the list.
31	A is incorrect because it does not represent the data in the table correctly in the stem and leaf plot.	B is correct because it represents the data in the table correctly in the stem and leaf plot.	C is incorrect because 100 is not represented correctly in the stem and leaf plot.	D is incorrect because it does not represent the data in the table correctly in the stem and leaf plot.
32	F is correct because 0.26 is equivalent to $26/100$.	G is incorrect because 0.26 is equivalent to $26/100$, not $26/10$.	H is incorrect because 0.26 is equivalent to $26/100$, not $26/100$, not $26/100$.	J is incorrect because 0.26 is equivalent to $26/100$, not $26/100$, not $26/100$.
33	A is incorrect because $6 + 4 + 5 + 7 = 22$, not 9.	B is incorrect because $6 + 4 + 5 + 7 = 22$, not 26.	C is correct because $6 + 4 + 5 + 7 = 22$.	D is incorrect because $6 + 4 + 5 + 7 = 22$, not 18.
34	F is incorrect because $45 \times 100 = 4,500$, not 4,005.	G is incorrect because $45 \times 100 = 4,500$, not 450.	H is incorrect because $45 \times 100 = 4,500$, not 145.	J is correct because $45 \times 100 = 4,500$.