Name: _____ Class: _____ Date: _____ ID: A

Pre Algebra Review for midterm exam

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Kelly is learning about rational and irrational numbers. What conclusion can she draw about the number 0.0101101110111101111...?
a. It is rational because it repeats.
b. It is rational because it terminates.
c. It is irrational because it neither repeats nor terminates.
d. It is irrational because it repeats.

____ 2. Pablo is studying rational and irrational numbers. What conclusion can he draw about the number 0.202002000200002...?
a. It is rational because it repeats.
b. It is rational because it terminates.
c. It is irrational because it neither repeats nor terminates.
d. It is irrational because it repeats.

____ 3. Identify the number $\sqrt{9}$ as rational or irrational.
a. irrational
b. rational

____ 4. Which of the following is an irrational number?
a. $\sqrt{5}$
b. 0.6
c. $\frac{300}{2}$
d. $\sqrt{49}$

____ 5. Which of the following is an irrational number?
a. $\sqrt{254}$
b. $0.\overline{6}$
c. $\frac{159}{7}$
d. $\sqrt{361}$

____ 6. Which of the following is an irrational number?
a. π
b. $-\sqrt{4}$
c. $\sqrt{0}$
d. $\sqrt{16}$

____ 7. What kind of number is $-\sqrt{2}$?
a. rational
b. irrational
c. not a real number
d. natural number

____ 8. What kind of number is 0?
a. rational
b. irrational
c. not a real number
d. negative number

____ 9. What rational number has –0.875 as its decimal equivalent?

a. $-\frac{7}{80}$

b. $-\frac{4}{5}$

c. $-\frac{7}{8}$

d. $-\frac{35}{4}$

____ 10. Elena needs to cut a square piece of wood with an area of 69 square inches. How long should the sides of the square be, rounded to the nearest tenth of an inch?

a. 7 in.
c. 34.5 in.
b. 8.3 in.
d. 17.3 in.

____ 11. Use a calculator to find $\sqrt{304}$. Round your answer to the nearest tenth.

a. 17.44
c. 17.02
b. 13.2
d. 17.4

____ 12. Which of these expressions is true?

a. $2 < \sqrt{10} < 3$
b. $3 < \sqrt{10} < 4$

____ 13. Which of these expressions is true?

a. $-7 > -\sqrt{70} > -7.5$
c. $-8 > -\sqrt{70} > -8.5$
b. $-7.5 > -\sqrt{70} > -8$
d. $-8.5 > -\sqrt{70} > -9$

____ 14. A square box lid has an area of 40 square inches. Which is the best estimate of the length of one side?

a. 6.0 inches
c. 6.5 inches
b. 6.3 inches
d. 7.0 inches

____ 15. Between what two integers does $\sqrt{132}$ lie?

a. 10 and 11
c. 12 and 13
b. 11 and 12
d. 13 and 14

____ 16. Which whole number is the best approximation for $\sqrt{(\sqrt{3})^2 + 5}$? Explain.

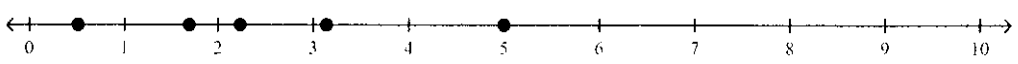
a. 2 because $\sqrt{5\sqrt{3}}$ is a little more than 2.

b. 7 because $3\sqrt{5}$ is between 6.5 and 7.

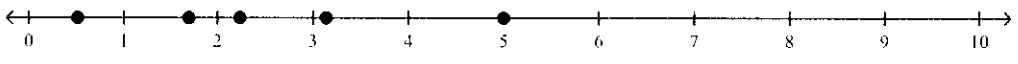
c. 5 because squares and square roots are inverse operations.

d. 3 because the square root of 8 is a little less than 3.

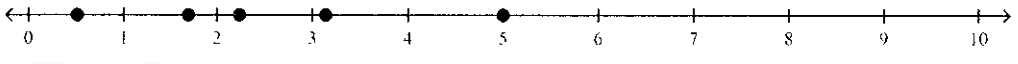
____ 17. Graph the numbers $\sqrt{5}$, 1.7, $\sqrt{25}$, $\frac{1}{2}$, and π on a number line. Then, order the numbers from least to greatest.

a. 

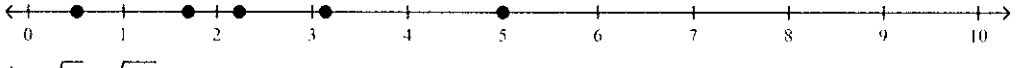
$\sqrt{25}$, $\sqrt{5}$, $\frac{1}{2}$, π, and 1.7

b. 

$\frac{1}{2}$, 1.7, $\sqrt{5}$, π, and $\sqrt{25}$

c. 

$\sqrt{25}$, π, $\sqrt{5}$, 1.7, and $\frac{1}{2}$

d. 

$\frac{1}{2}$, $\sqrt{5}$, $\sqrt{25}$, 1.7, and π

____ 18. Between which pair of decimals does $\sqrt{13}$ fall on a number line?
a. Between 3.2 and 3.3
b. Between 3.4 and 3.5
c. Between 3.6 and 3.7
d. Between 3.8 and 3.9

____ 19. A square room has a tiled floor with 81 square tiles. How many tiles are along an edge of the room?
a. 9 tiles
b. 11 tiles
c. 40 tiles
d. 20 tiles

____ 20. Simplify $2\sqrt{-19+44}$.
a. 13.3
b. 44
c. 10
d. 27

____ 21. Describe and give the value of $-\sqrt{100}$.
a. Irrational, –50
b. Not a real number
c. Irrational, –10
d. Rational, –10

____ 22. Find a real number between $(-2)^2$ and $\sqrt{25}$.
a. –3
b. 3.998
c. 4.225
d. 6

____ 23. Find a rational number between $\sqrt{144}$ and $(-4)^2$.
a. $\sqrt{150}$
b. $\sqrt{-150}$
c. $11\frac{1}{2}$
d. 16.253

____ 24. Find a rational number between $\sqrt{169}$ and $(-4)^2$.

a. $\sqrt{180}$
b. $\sqrt{-180}$
c. $11\frac{1}{2}$
d. 16.253

____ 25. Simplify $\sqrt{9+16}$.

a. 4
b. 5
c. 7
d. 25

____ 26. The surface area of the top of a square table is 110.25 in^2. What are the dimensions of the top of the table?

a. $10\frac{1}{2}$ in. by 1 in.
b. $10\frac{1}{4}$ in. by $11\frac{1}{4}$ in.
c. $10\frac{1}{2}$ in. by $10\frac{1}{2}$ in.
d. $11\frac{1}{2}$ in. by 10 in.

____ 27. Evaluate $\sqrt{81}-\sqrt{25}$.

a. $\sqrt{56}$
b. 16
c. 14
d. 4

____ 28. Evaluate $\sqrt{\frac{1}{4}}$.

a. 2
b. $\frac{1}{2}$
c. $\frac{1}{8}$
d. $-\frac{1}{2}$

____ 29. What is the value of x if $x^2 = 10$?

a. $\pm\sqrt{10}$
b. $\sqrt{10}$
c. 5
d. ± 5

____ 30. Evaluate $\sqrt[3]{\frac{8}{27}}$.

a. $\frac{2}{9}$
b. $\frac{2}{3}$
c. $\frac{3}{2}$
d. 6

____ 31. What is the value of x if $x^3 = 100$?

a. $\sqrt[3]{100}$
b. $\pm\sqrt[3]{100}$
c. 10
d. ± 10

____ 32. Colin has a square garden with an area of 97 square feet. What is the length of each side of the garden?

a. 10 ft
b. $\sqrt{97}$ ft
c. $\sqrt[3]{97}$ ft
d. $-\sqrt{97}$ ft

____ 33. Simplify $6^3 \cdot 6^7$.

a. 6^{21}
b. 6^{10}
c. 6^4
d. 36^{21}

____ 34. Simplify using exponents: $9^5 \cdot 9^4 \cdot 9^8$.

a. 9^{17}
b. 9^{160}
c. 729^{17}
d. 729^{160}

____ 35. Which of the following is equivalent to 2^{-3}?

a. $(-2)(-2)(-2)$
b. $-\frac{1}{(2)(2)(2)}$
c. $\frac{1}{(2)(2)(2)}$
d. $(2)(2)(2)$

____ 36. Simplify 64^0.

a. 0
b. 1
c. 64
d. 640

____ 37. Evaluate $2w^{-2}z^{0}$ for $w = 10$ and $z = 2$.

a. $\frac{1}{200}$
c. $\frac{1}{25}$
b. $\frac{1}{50}$
d. $\frac{1}{20}$

____ 38. Evaluate $a^{0}b^{-2}$ for $a = 2$ and $b = -2$.

a. $\frac{1}{4}$
c. $\frac{1}{2}$
b. 0
d. -4

____ 39. Simplify the expression using positive exponents.

$\left(\frac{-4}{q}\right)^{8}$

a. $\frac{32}{q^{8}}$
c. $\frac{32}{8q}$
b. $\frac{65,536}{8q}$
d. $\frac{65,536}{q^{8}}$

____ 40. Use properties of exponents to write an equivalent expression for $11^{2} \bullet 11^{5}$.

a. 11^{10}
b. $11^{\frac{2}{5}}$
c. 11^{7}
d. 121^{7}

____ 41. Use properties of exponents to write an equivalent expression for $5^{4} \bullet 5^{-7}$.

a. $\frac{1}{5^{28}}$
b. $\frac{1}{5^{3}}$
c. 5^{11}
d. $5^{-\frac{4}{7}}$

____ 42. Use properties of exponents to write an equivalent expression for $\frac{13^{9}}{13^{6}}$.

a. $13^{\frac{3}{2}}$
b. 13^{15}
c. 1^{3}
d. 13^{3}

____ 43. Use properties of exponents to write an equivalent expression for $\left(9^4\right)^6$.

a. 9^{24}
b. 9^{10}
c. $\frac{1}{9^2}$
d. $9^{\frac{2}{3}}$

____ 44. Simplify the expression $\left(8^5\right)^0 + (7+3)^6 \bullet 10^{-8}$.

a. $\frac{1}{100}$
b. $1\frac{1}{100}$
c. 100
d. 101

____ 45. The distance from Earth to the sun, about 1.50×10^8 kilometers, is known as an astronomical unit. The nearest star, Proxima Centauri, is 2.6×10^8 astronomical units from Earth. How many kilometers separate Earth from the nearest star?

a. 3.9×10^8 km
b. 3.9×10^{15} km
c. 3.9×10^{16} km
d. 3.9×10^{64} km

____ 46. In 2010, the population of the Dominican Republic was about 9.884×10^6. The population of Haiti was about 1.009×10^7. About how much more was the population of Haiti than the Dominican Republic?

a. 2.06×10^5
b. 2.06×10^6
c. 2.06×10^8
d. 2.06×10^9

____ 47. The speed of light is 1.86×10^5 miles per second. What is this number in standard notation?

a. 0.0000186 mi/s
b. 186,000 mi/s
c. 1,860,000 mi/s
d. 18,600,000 mi/s

____ 48. In 2011, the population of the United States was about 3.12×10^8. The population of Japan was about 1.27×10^8. About how much more was the population of the United States than Japan?

a. 1.85×10^0
b. 1.85×10^8
c. 1.85×10^{16}
d. 1.85×10^{64}

____ 49. What is 12,325 written in scientific notation?

a. 1.2325×10^{-4}
b. 12.325×10^{3}
c. 1.2325×10^{4}
d. 1.2325×10^{5}

____ 50. What is 0.005007 written in scientific notation?

a. 5.007×10^{3}
b. 5.007×10^{-3}
c. 5.007×10^{-4}
d. 500.7×10^{-5}

____ 51. What is 1.0315×10^{6} written in standard notation?

a. 1,031,500
b. 103,150
c. 0.000010315
d. 0.0000010315

____ 52. What is 9.2568×10^{-3} written in standard notation?

a. 0.0092568
b. 0.092568
c. 0.92568
d. 9256.8

____ 53. What is 8.305×10^{-7} written in standard notation?

a. −83,050,000
b. 0.0000008305
c. 0.00000008305
d. 83,050,000

____ 54. Which is the product of $\left(7.006 \times 10^{41}\right) \times \left(5.09 \times 10^{22}\right)$ in scientific notation?

a. 3.566×10^{41}
b. 3.566×10^{62}
c. 3.566×10^{63}
d. 3.566×10^{64}

____ 55. Which is the quotient of $\left(2.73 \times 10^{12}\right) \div \left(9.06 \times 10^{4}\right)$ in scientific notation?

a. 3.013×10^{2}
b. 3.013×10^{7}
c. 3.013×10^{8}
d. 3.013×10^{9}

____ 56. Which is the product of $\left(9.45 \times 10^{2}\right) \times \left(6.2 \times 10^{8}\right)$ in scientific notation?

a. 5.859×10^{9}
c. 5.859×10^{11}
b. 5.859×10^{10}
d. 5.859×10^{16}

____ 57. In 2010, the population of Brazil was about 1.907×10^{8}. The population of Mexico was about 1.123×10^{8}. About how much more was the population of Brazil than Mexico?

a. 7.84×10^{0}
c. 7.84×10^{8}
b. 7.84×10^{7}
d. 7.84×10^{9}

____ 58. In 2010, the population of the Dominican Republic was about 9.884×10^{6}. The population of Haiti was about 1.009×10^{7}. About how much more was the population of Haiti than the Dominican Republic?

a. 2.06×10^{5}
c. 2.06×10^{8}
b. 2.06×10^{6}
d. 2.06×10^{9}

____ 59. Which is the product of $\left(2.49 \times 10^{11}\right) \times \left(8.62 \times 10^{9}\right)$ in scientific notation?

a. 2.146×10^{19}
c. 2.146×10^{21}
b. 2.146×10^{20}
d. 2.146×10^{99}

____ 60. Which is the sum of $\left(3.12 \times 10^{8}\right) + \left(5.51 \times 10^{7}\right)$?

a. 3.1751×10^{8}
c. 5.822×10^{8}
b. 3.671×10^{8}
d. 8.63×10^{8}

____ 61. The area of Russia is about 1.71×10^{7} square kilometers. The area of Jamaica is about 1.10×10^{4} square miles. How many times larger is Russia than Jamaica? Write your answer in scientific notation, and round the decimal part of your answer to two decimal places.

a. Russia is about 1.55×10^{2} times larger than Jamaica.
b. Russia is about 1.55×10^{3} times larger than Jamaica.
c. Russia is about 1.55×10^{4} times larger than Jamaica.
d. Russia is about 1.55×10^{1} times larger than Jamaica.

____ 62. A passenger plane travels at about 7.97×10^{2} feet per second. The plane takes 1.11×10^{4} seconds to reach its destination. About how far must the plane travel to reach its destination? Write your answer in scientific notation.

a. 8.85×10^{8} feet
c. 8.85×10^{6} feet
b. 9.08×10^{6} feet
d. 9.08×10^{8} feet

____ 63. The planet Uranus has an average distance from the sun of about 1.784×10^{9} miles. The planet Earth has an average distance from the sun of about 9.3×10^{7} miles. On average, how much farther from the sun is Uranus than Earth? Write your answer in scientific notation.

a. 1.691×10^{9} miles
c. 7.516×10^{2} miles
b. 9.385×10^{8} miles
d. 1.877×10^{9} miles

____ 64. In 2010, the population of Brazil was about 1.987×10^8 people. The population of Lithuania was about 3.555×10^6 people. What was the total population of Brazil and Lithuania? Write your answer in scientific notation.

a. 5.542×10^8 people
b. 2.023×10^8 people
c. 1.951×10^8 people
d. 5.542×10^{14} people

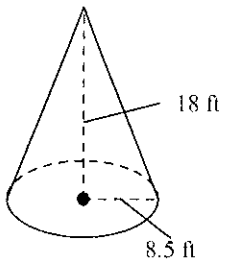
____ 65. Complete the statement using <, >, or =.
7.85×10^{-6} ? 7.58×10^{-5}

a. =
b. <
c. >

____ 66. Given that y varies directly with x, find the equation of direct variation when $x = 15$ and $y = 5$.

a. $xy = \frac{3}{1}$
b. $y = \frac{1}{3}x$
c. $y = \frac{3}{1}x$
d. $xy = \frac{1}{3}$

____ 67. Find the volume of the figure. Use 3.14 for π. If necessary, round your answer to the nearest tenth.



a. 160.1 ft^3
b. 1361.2 ft^3
c. 75.6 ft^3
d. 4083.6 ft^3

____ 68. To the nearest tenth, find the volume of a sphere with a diameter of 10 cm. Use 3.14 for π.

a. 314.2 cm^3
b. 523.3 cm^3
c. 1256.6 cm^3
d. 4188.8 cm^3

____ 69. Find the volume and surface area of a sphere with a radius of 4.8 cm to the nearest tenth. Use 3.14 for π.

a. Surface Area: 120.6 cm^2
Volume: 60.3 cm^3
b. Surface Area: 120.6 cm^2
Volume: 463.0 cm^3
c. Surface Area: 289.4 cm^2
Volume: 60.3 cm^3
d. Surface Area: 289.4 cm^2
Volume: 463.0 cm^3

____ 70. A rainwater collection tank is shaped like a cylinder with a diameter of 4 ft and a height of 6 ft. What is its volume? Use 3.14 for π.

a. 15 $units^2$
b. 20 $units^2$
c. 30 $units^2$
d. 62 $units^2$

____ 71. Find the volume and surface area of a sphere with a radius of 2 cm to the nearest tenth. Use 3.14 for π.

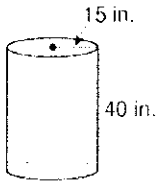
a. Surface Area: 50.2 cm^2
Volume: 16.7 cm^3

b. Surface Area: 50.2 cm^2
Volume: 33.5 cm^3

c. Surface Area: 100.5 cm^2
Volume: 25.1 cm^3

d. Surface Area: 100.5 cm^2
Volume: 33.5 cm^3

____ 72. Find the volume of the cylinder. Use 3.14 for π.

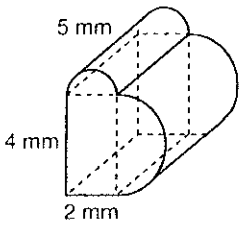


a. 1200 in^3
b. 1884 in^3
c. 3768 in^3
d. 28,260 in^3

____ 73. Compare the volume and surface area of a sphere with a radius of 2 cm with that of a cube that has sides measuring 3.22 cm.

a. The volume of the cube is greater than the volume of the sphere, but the sphere has a greater surface area.
b. The volume of the sphere is approximately equal to the volume of the cube, but the cube has a greater surface area.
c. The volume of the sphere is approximately equal to the volume of the cube, but the sphere has a greater surface area.
d. The sphere and the cube have approximately the same volume and surface area.

____ 74. Find the volume of the composite figure. Round your answer to the nearest tenth. Use 3.14 for π.

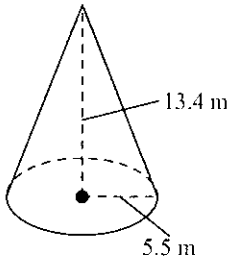


a. 140.6 mm^3
b. 96.8 mm^3
c. 40 mm^3
d. 79.3 mm^3

____ 75. The diameter of the base of a cylinder is 10 cm and the height is 20 cm. What is the volume of the cylinder? Use 3.14 for π.

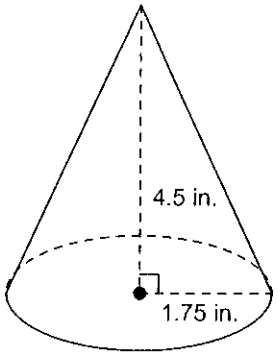
a. 628 cm^3
b. 1,256 cm^3
c. 1,570 cm^3
d. 6,280 cm^3

____ 76. Find the volume of the cone. Use 3.14 for π. Round your answer to the nearest tenth.



a. 31.7 m^3
b. 424.3 m^3
c. 1,272.8 m^3
d. 77.1 m^3

____ 77. What is the volume of the cone with the given dimensions? Use 3.14 for π. Round your answer to the nearest tenth of a cubic inch.



a. 8.25 in^3
b. 14.4 in^3
c. 43.3 in^3
d. 57.7 in^3

____ 78. What is the formula for the volume of a sphere with diameter d?

a. $V = \frac{1}{3}\pi\left(\frac{d}{2}\right)^3$
b. $V = 4\pi d^3$
c. $V = \frac{4}{3}\pi\left(\frac{d}{2}\right)^3$
d. $V = \frac{4}{3}\pi d^3$

____ 79. What is the ratio of the volumes of a cylinder and a cone having the same base radius r and height h?

a. The volume of a cone is 3 times the volume of a cylinder.
b. The volume of a cylinder is 3 times the volume of a cone.
c. The volume of a cylinder is $\frac{1}{3}$ times the volume of a cone.
d. The volumes of a cylinder and a cone are equal.

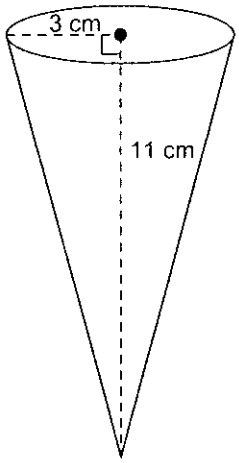
____ 80. A cylindrical soup can has a height of $3\frac{1}{2}$ in. and a diameter of $2\frac{1}{8}$ in. What is the volume of the soup can? Use 3.14 for π. Round your answer to the nearest tenth of a cubic inch.

a. 4.1 in^3
b. 12.4 in^3
c. 23.4 in^3
d. 49.6 in^3

____ 81. A ball has a radius of 8 cm. What is the volume of the ball? Use 3.14 for π. Round your answer to the nearest tenth of a cubic centimeter.

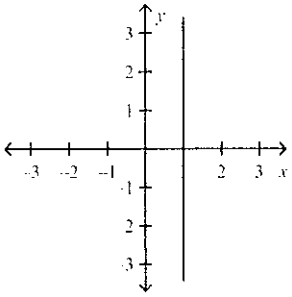
a. 267.9 cm^3
b. 535.9 cm^3
c. 1,607.7 cm^3
d. 2,143.6 cm^3

____ 82. An ice cream cone is shown. What is the volume of the ice cream cone? Use 3.14 for π.



a. 34.54 cm^3
b. 103.62 cm^3
c. 310.86 cm^3
d. 414.48 cm^3

____ 83. Determine if the relation represents a function.



a. The relation is a function.
b. The relation is not a function.

_____ 84. Determine if the relation represents a function.

x	y
0	–5
1	–1
2	3
3	6

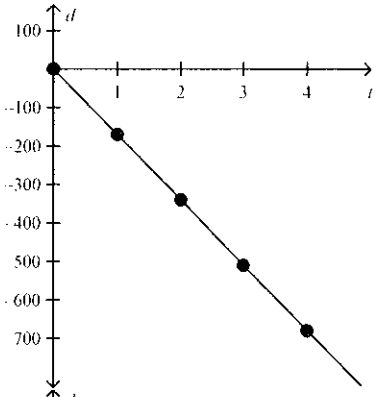
a. The relation is a function.

b. The relation is not a function.

____ 85. Once a falling object in the atmosphere reaches *terminal velocity*, its speed does not change unless something else (such as a parachute) acts on the object.
Make a table and sketch a graph of the distance fallen by a skydiver falling at a terminal velocity of 170 feet per second. The distance fallen after reaching terminal velocity is represented by the equation $d = -170t$, where d is the distance and t is the number of seconds.

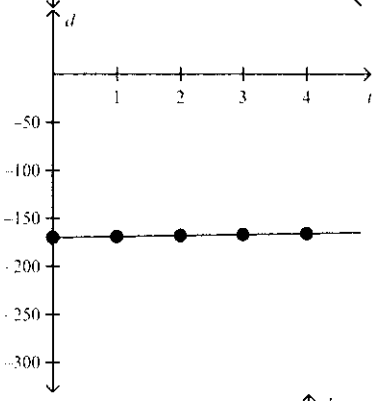
a.

t	$-170t$	d
0	$-170(0)$	0
1	$-170(1)$	-170
2	$-170(2)$	-340
3	$-170(3)$	-510
4	$-170(4)$	-680



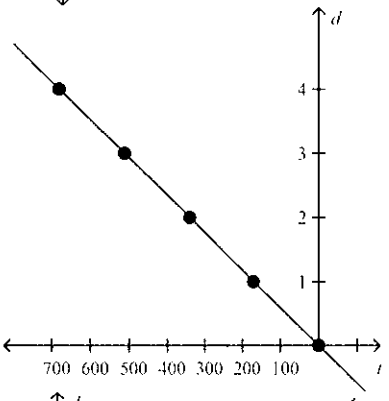
b.

t	$-170t$	d
0	$-170(0)$	-170
1	$-170(1)$	-169
2	$-170(2)$	-168
3	$-170(3)$	-167
4	$-170(4)$	-166



c.

t	$-170t$	d
0	$-170(0)$	0
1	$-170(1)$	-170
2	$-170(2)$	-340
3	$-170(3)$	-510
4	$-170(4)$	-680



d.

t	$-170t$	d
0	$-170(0)$	0
1	$-170(1)$	170
2	$-170(2)$	340
3	$-170(3)$	510
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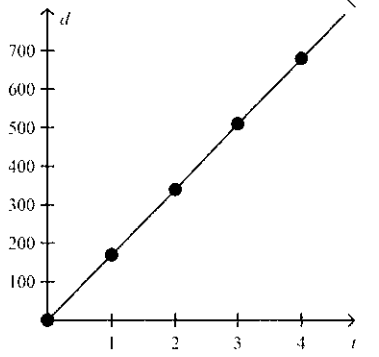


Multiple Response
Identify one or more choices that best complete the statement or answer the question.

____ 1. Which of the following rational numbers fall between 2.7 and 2.8 on a number line?

a. $\frac{11}{4}$
b. $2\frac{19}{25}$
c. $\frac{21}{8}$
d. $2\frac{41}{50}$
e. $\frac{277}{100}$
f. $2\frac{5}{6}$

____ 2. Which of the following numbers fall between 4.7 and 4.8 on a number line?

a. $\sqrt{22}$
b. 1.5π
c. $\frac{\sqrt{91}}{2}$
d. $1+\sqrt{15}$
e. $2\sqrt{6}$
f. $5-\pi$

____ 3. Suppose each irrational number below is approximated by the whole number to which it is closest. Which of the irrational numbers have whole-number approximations that are even?

a. $2\sqrt{32}$
b. $5+\sqrt{18}$
c. $\sqrt{24}$
d. $\sqrt{52}-3$
e. $3\sqrt{14}$
f. $\sqrt{20}+\sqrt{26}$

____ 4. For which values of x is the expression $\sqrt{x}$ irrational?

a. 1
b. 2
c. 3
d. 4
e. 5

____ 5. Which of the following expressions are equivalent to rational numbers?

a. $\sqrt[3]{0.008}$
b. $\sqrt{2}$
c. $\sqrt[3]{1}$
d. $\sqrt{3}$
e. $\sqrt[3]{9}$
f. $\sqrt{\frac{9}{64}}$

____ 6. Which of the following expressions have a value less than 1?

a. $\frac{4^{11}}{4^{14}}$
b. $\frac{\left(3^5\right)^2}{3^4}$
c. $4^{-1} \bullet 4^5$
d. $\left(2^3\right)^{-2}$
e. $\left(5^4\right)^2 \bullet 5^{-11}$
f. $\frac{6^{-4} \bullet 6^6}{6^3}$

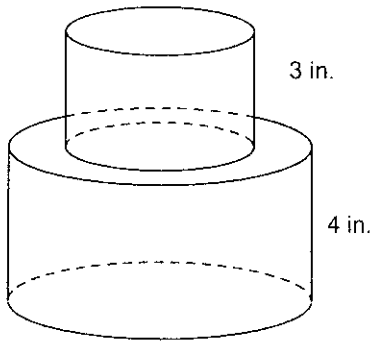
____ 7. Which of the following statements are true?

a. 3×10^4 is 50 times as great as 6×10^2.
b. 5×10^2 is 100 times as great as 5×10^{-2}.
c. 7×10^{-5} is 5000 times as great as 1.4×10^{-9}.
d. 8×10^{-12} is 0.0001 times as great as 8×10^{-8}.
e. 2×10^{-6} is 0.01 times as great as 2×10^{-4}.
f. 1.8×10^{-3} is 0.00002 times as great as 9×10^4.

____ 8. Which of the following measurements are equal to 0.000043 L?

a. 4.3×10^2 L
b. 4.3×10^{-4} L
c. 4.3×10^{-5} L
d. 4.3×10^{-2} mL
e. 4.3×10^{-8} mL
f. 4.3×10^{-10} mL

____ 9. Stefan is making a two-tier cake in the shape shown. The diameter of the bottom cylindrical tier is 8 in., and the diameter of the top cylindrical tier is 5 in. Which measurements are the volumes of each tier and the entire cake? Use 3.14 for π. Round your answers to the nearest cubic inch.



a. 59 in^3
b. 201 in^3
c. 236 in^3
d. 260 in^3
e. 804 in^3
f. 1,040 in^3

Matching

Match each rational number with its decimal equivalent.

a. -1.024
b. $-1.0\overline{24}$
c. -1.204
d. -1.24
e. $-1.\overline{24}$
f. $-1.2\overline{4}$

____ 1. $-\frac{41}{33}$

____ 2. $-\frac{112}{90}$

____ 3. $-\frac{31}{25}$

____ 4. $-\frac{338}{330}$

____ 5. $-\frac{128}{125}$

Match each radical expression with its rational equivalent.

a. $-\frac{1}{2}$
b. 0.05
c. 0.07
d. $\frac{1}{4}$
e. 0.5
f. 0.7
g. 2
h. 9

____ 6. $\sqrt{4}$

____ 7. $\sqrt{81}$

____ 8. $\sqrt{0.25}$

____ 9. $\sqrt[3]{\frac{1}{64}}$

____ 10. $\sqrt[3]{-\frac{1}{8}}$

____ 11. $\sqrt{0.49}$

Match each number with its scientific notation equivalent.

a. 3.794×10^{6}
b. 3.794×10^{5}
c. 3.794×10^{3}
d. 3.794×10^{-6}
e. 3.794×10^{-10}
f. 3.794×10^{-11}

____ 12. 3794

____ 13. 0.000003794

____ 14. 3,794,000

____ 15. 379,400

____ 16. 0.00000000003794

Match each three-dimensional figure with the formula for its volume.

a. $V = \pi r^2 h$

b. $V = \frac{1}{3}\pi r^3$

c. $V = \frac{1}{3}\pi rh$

d. $V = \frac{4}{3}\pi r^3$

e. $V = \pi r^2$

f. $V = \frac{1}{3}\pi r^2 h$

____ 17. Cone

____ 18. Cylinder

____ 19. Sphere

Short Answer

1. A subway pass costs $20.00 and $1.50 is deducted from the balance on the pass every time you use it. Write the equation to represent this situation, and graph it.