

ALEKS® FND M020 Review Pack #2

Pre-Algebra and Introductory Algebra / FND M020 Spring 16-FC4 – 29154-29268-
JohnsonT-04S1MATH03 (Mr. Thomas)

Student Name/ID:

1. In a survey, 200 shoppers were asked whether they have access to a computer at home and if they have a personal e-mail account. Their responses are summarized in the following table.

	E-Mail account	No e-mail account
Computer access at home	64	24
No computer access at home	16	96

- (a) What percentage of the shoppers have computer access at home?
- (b) What percentage of the shoppers do *not* have an e-mail account?

2. The price of an item has been reduced by 85%. The original price was \$55.

Use a calculator to find the price of the item now.

3. Latoya bought a table on sale for \$639. This price was 29% less than the original price.

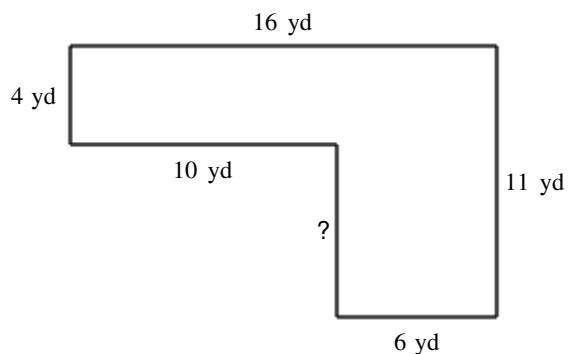
What was the original price?

4. The price of a cup of coffee has risen to \$2.70 today. Yesterday's price was \$2.45. Find the percentage increase. Round your answer to the nearest tenth of a percent.

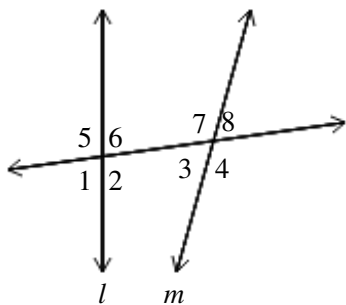
5. Find the missing side length.

Assume that all intersecting sides meet at right angles.

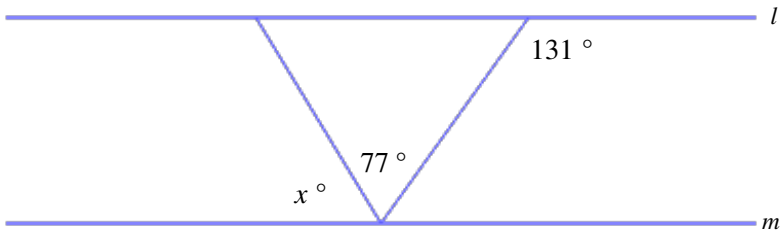
Be sure to include the correct unit in your answer.



6. Give one pair of vertical angles and one pair of supplementary angles shown in the figure below.



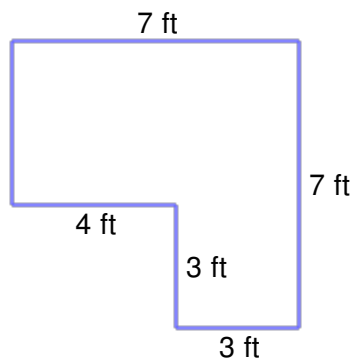
7. In the figure below, $l \parallel m$. Find x .



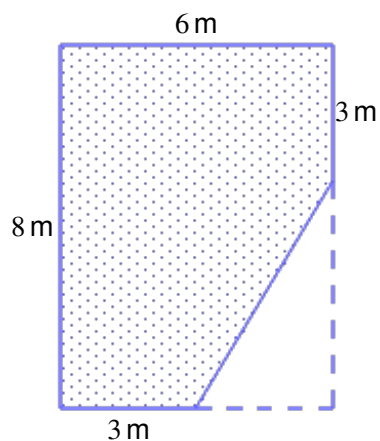
8. A circle has a diameter of 30 mm. What is its circumference?

Use 3.14 for π , and do not round your answer. Be sure to include the correct unit in your answer.

9. Find the area of the figure. (Sides meet at right angles.)

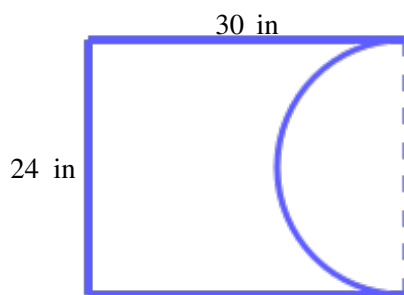


10. A right triangle is removed from a rectangle to create the shaded region shown below. Find the area of the shaded region. Be sure to include the correct unit in your answer.

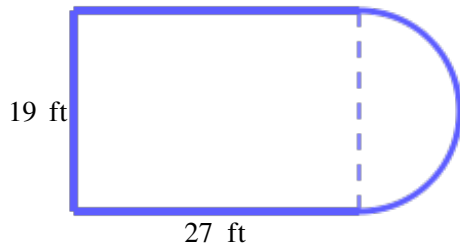


11. A rectangular paperboard 30 in long and 24 in wide has a semicircle cut out of it, as shown below.

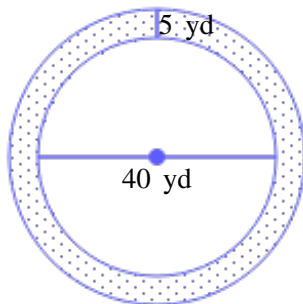
Find the area of the paperboard that remains. Use the value 3.14 for π , and do not round your answer. Be sure to include the correct unit in your answer.



12. A rose garden is designed by joining a rectangle and a semicircle, as shown below. The rectangle is 27 ft long and 19 ft wide. If the gardener wants to build a fence around the garden, how many feet of fence are required? (Use the value 3.14 for π , and do not round your answer. Be sure to include the correct unit in your answer.)



13. A flower garden is shaped like a circle. Its diameter is 40 yd. A ring-shaped path goes around the garden. The width of the path is 5 yd.

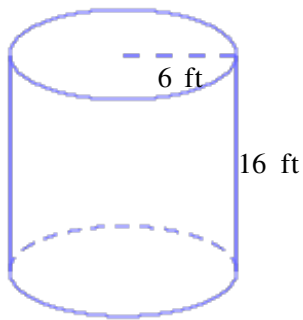


The gardener is going to cover the path with sand. If one bag of sand can cover 7 yd^2 , how many bags of sand does the gardener need? Note that sand comes only by the bag, so the number of bags must be a whole number. (Use the value 3.14 for π .)

14. The radius of a cylindrical water tank is 6 ft, and its height is 16 ft. What is the volume of the tank?

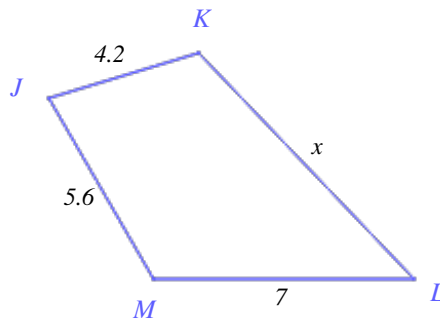
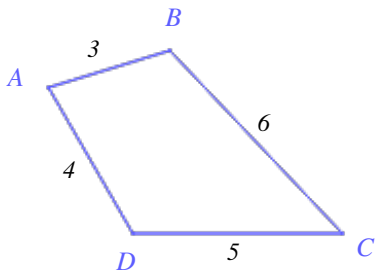
Use the value 3.14 for π , and round your answer to the nearest whole number.

Be sure to include the correct unit in your answer.



15. The quadrilaterals $ABCD$ and $JKLM$ are similar.

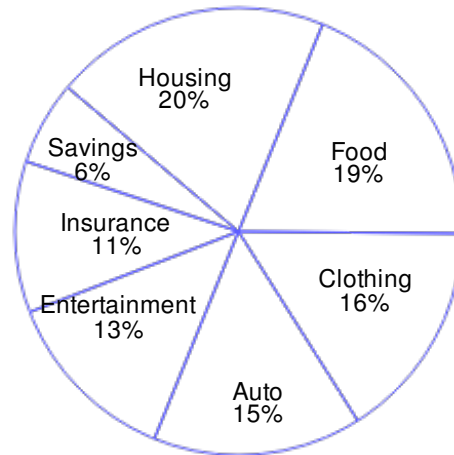
Find the length x of \overline{KL} .



16. Goran rented a movie. He started the movie at 10 : 40 PM, and it was 3 hours 39 minutes long. When did the movie end?

17. Rita flew from Chicago to Denver. Her flight took off at 11 : 39 AM and landed at 2 : 28 PM. How long did the flight last?

18. The circle graph shows how a family spends its annual income. If \$29,400 is used for Auto and Entertainment combined, what is the total annual income?



19. Simplify.

$$-3(w + 2) + 6w$$

20. Simplify the following expression.

$$-8x^2 + 4 + 10x^2 - 10 - 5x$$

21. Solve for w .

$$2(4w + 7) = 62$$

Simplify your answer as much as possible.

22. Solve for w .

$$-10.6 = \frac{w}{8} + 2.2$$

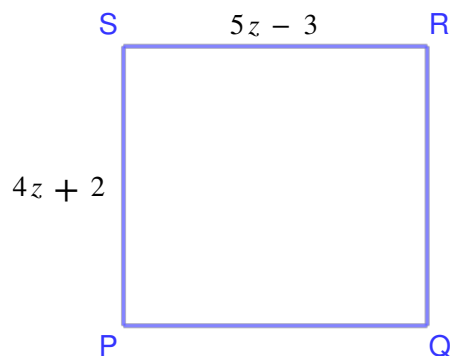
23. Translate the sentence into an equation.

The difference of a number times 8 and 3 equals 6.

Use the variable w for the unknown number.

24. The perimeter of the rectangle below is 142 units. Find the length of side \overline{QR} .

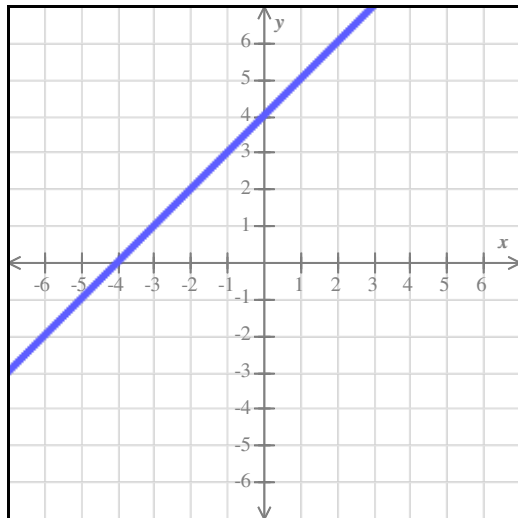
Write your answer without variables.



25. A total of 584 tickets were sold for the school play. They were either adult tickets or student tickets. The number of student tickets sold was three times the number of adult tickets sold. How many adult tickets were sold?

26. The circumference of a circular field is 257.48 yards. What is the diameter of the field? Use 3.14 for π and do not round your answer.

27. Find the x -intercept and the y -intercept of the line below.



28. Solve the following system of equations.

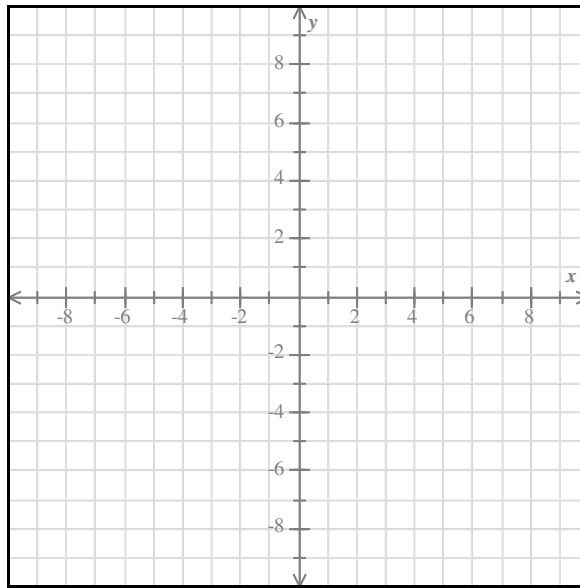
$$-8x + 3y = 7$$

$$13x - 3y = -17$$

29. Ravi has scored 90, 90, 91, and 92 on his previous four tests. What score does he need on his next test so that his average (mean) is 88?

30. Graph the line.

$$y = -3x - 2$$



31. Simplify.

$$(-2x^3yz^3)(-x^3y^2z^2)^4$$

32. Simplify.

$$\frac{54v^5w}{45v^3w}$$

33. Answer the following.

- (a) An astronomer's infrared telescope is able to detect radiation with a wavelength of 8.35×10^{-5} meters. Write this number in standard notation.
- (b) The diameter of Pluto at its equator is approximately 2390 kilometers. Write this number in scientific notation.

34. Multiply.

$$(5b - 3)(7b + 6)$$

Simplify your answer.

FND M020 Review Pack #2 Answers for class Pre-Algebra and Introductory Algebra / FND M020 Spring 16-FC4 – 29154-29268-JohnsonT-04S1MATH03

1. (a) 44%

(b) 60%

2. \$8.25

3. \$900

4. 10.2%

5. 7 yd

6. Vertical angles: $\angle 1$ and $\angle 6$
Supplementary angles: $\angle 4$ and $\angle 8$

7. $x = 54$

8. 94.2 mm

9. 37 ft^2

10. 40.5 m^2

11. 493.92 in^2

12. 102.83 ft

13. 101 bags of sand

14. 1809 ft^3

15. $x = 8.4$

16. 2 : 19 AM

17. 2 h 49 min

18. \$105,000

19. $3w - 6$

20. $2x^2 - 5x - 6$

21. $w = 6$

22. $w = -102.4$

23. $8w - 3 = 6$

24. $QR = 34$

25. 146 adult tickets

26. 82 yards

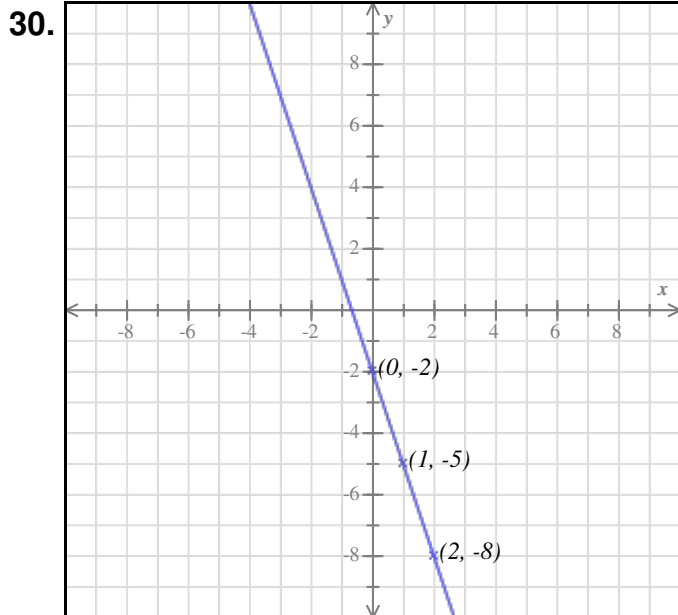
27. x -intercept: -4

y -intercept: 4

28. $x = -2$

$y = -3$

29. 77



31. $-2x^{15}y^9z^{11}$

32. $\frac{6v^2}{5}$

33. (a) 0.0000835 meters

(b) 2.39×10^3 kilometers

34. $35b^2 + 9b - 18$