

**Readiness Check Formula Sheet****Perimeter of a rectangle**

$$P = 2l + 2w$$

**Area of a triangle**

$$A = \frac{1}{2}bh$$

**Distance formula**

distance = rate · time

$$d = rt$$

**Area of a rectangle**

$$A = lw$$

**Volume of a rectangular pyramid**

$$V = \frac{1}{3}lwh$$

## Skills Assessment

The Skills Assessment is *not* a test. This part of the Readiness Check includes 24 math problems designed to identify skills you may need to review or practice before starting algebra.

- **Do** use the Formula Sheet.
- **Do** show your work.
- **Do** check your work.
- **Do not** use a calculator.
- **Do** your best, even if you are unsure how to solve a problem. It is important to attempt and to persevere through each problem.

**Evaluate. Write answers in simplest terms.**

1)  $3\frac{1}{2} \div 4\frac{1}{3}$

2)  $\frac{7}{8} - \frac{5}{12}$

3)  $|6 - 10| + 2^3 - (4 + 2)^2 \div 6 + \sqrt{81}$

4) Evaluate:  $-7^2$

Is the answer positive or negative? Explain your reasoning.

5) Evaluate:  $(-3)^4$

Is the answer positive or negative? Explain your reasoning.

- 6) At Floyd's Family Farm the ratio of chickens to goats was seven to eight. If the farm owned 14 goats, how many chickens do they own? Show your work.

- 7) Given  $3x - 4 = 17$  and  $\frac{1}{2}y + 2 = 5$ , find the **sum** of  $x$  and  $y$ . Show your work.

- 8) Solve. Show all your work. Check your solution.

$$-\frac{5}{2}(x - 2) = 15$$

**Check**

- 9) Find the error, describe it, and then solve the equation correctly.

$$\frac{3}{4}x - 5 = 2$$

$$+5 \quad +5$$

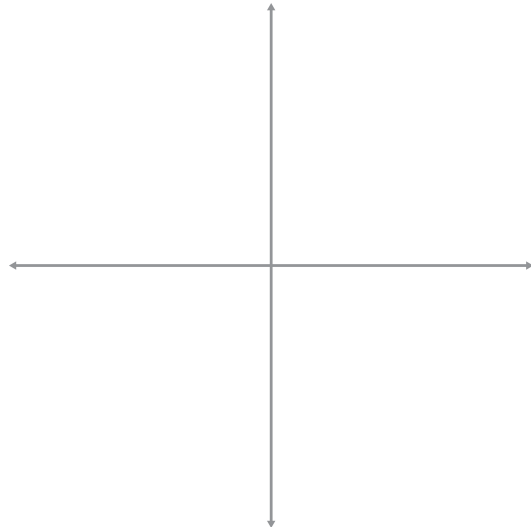
$$\frac{3}{4}x = 7$$

$$-\frac{3}{4} \quad -\frac{3}{4}$$

$$x = 6\frac{1}{4}$$

- 10) Write an equation and solve.  
Three times a number ( $n$ ) is equal to four times the same number minus two.

- 11) Label the quadrants on the coordinate plane.  
Then, label the  $x$ - and  $y$ -axis.



List *all* the factors of each number. Circle any factors that are a perfect square.

12) 49

13) 48

14) Evaluate  $-2x^2y^3$  when  $x = -3$  and  $y = 2$ .

15) Given  $3x - 5 = 10$ , what is  $2 - 5x$ ?

16) Using the values 1, 4, and 7 *only once*, find the combination that yields the **smallest possible** solution. Explain your thinking.

$$5 = \frac{\square}{\square} x - \square$$

17) Name the GCF and LCM of 12 and 15.

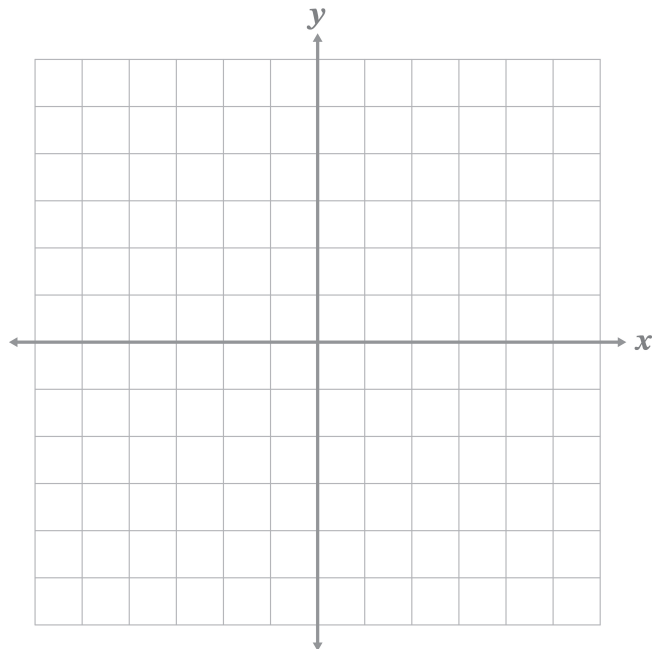
18) The length ( $l$ ) of a rectangle is twice the width ( $w$ ). Find the *area* when the perimeter of the rectangle is 54 units.

19) Plot and label the points to create a triangle.  
Use your graph to determine the base and height and find the area of the triangle. Remember to include the proper units.

A:  $(-3, -1)$

B:  $(4, 5)$

C:  $(4, -1)$



- 20)** Solve. Show all your work. Checking your solution is *required*.

$$3x + 4 - 5x = 1$$

**Check**

- 21)** Solve the inequality. Graph the solution(s) on the number line.

$$x + 4 < 5$$



- 22)** If the volume of the pyramid is 32 and the length is 4 and the width is 2, find the height. Write the formula and solve. Use your formula sheet and show your work.

**23)** Complete the table of values for the equation:  $y = 3x - 4$

$x$	work for $y = 3x - 4$	$y$
-1		
0		
1		
2		

**24)** Describe the pattern for the  $x$ - and  $y$ -values from the table.