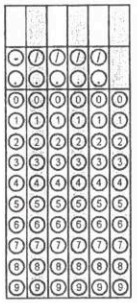
Answer Key

Grid-In Practice

- Write only one digit or symbol in each box. Spaces are permitted before or after your answer, but not within the answer. Darken the corresponding circle below each box. The computer scores based on the darkened circles.
- For a negative number, write a negative sign in the top of the leftmost column. Darken the top circle below.
- Do not use symbols such as comas or dollar signs. Use only symbols that are provided in the circles.
- If an answer is a mixed number, it must be changed and entered as an improper fraction or a decimal. If your answer is the mixed number four and one-half, it can be bubbled as 9/2 as an improper fraction or 4.5 as a decimal.



1. A bicycle that costs \$320 is on sale this week for 20% off the regular price. How much can be saved by purchasing the bicycle this week? $\frac{x}{320} = \frac{20}{100}$ $100x = 6400$ $x = \$64$	\$64
2. The scale on a blueprint of a house is 1 inch = 5 feet. On the blueprint, the length of the house is 12.5 inches. What is the length, in feet, of the actual house? $\frac{1}{5} = \frac{12.5}{x}$ $x = 62.5$	62.5 ft
3. At the school supply store you can buy 3 pencils for \$1.05. How much would it cost if you wanted to buy 7 pencils? $3\overline{)1.05}$ = 0.35, -9, 15 0.35 × 7 = 2.45	\$2.45
4. Josie ran $3\frac{1}{4}$ miles on Saturday. Kelly ran $1\frac{2}{3}$ miles on Saturday. How much further did Josie run than Kelly? $3\frac{1}{4} - 1\frac{2}{3} = \frac{13}{4} - \frac{5}{3} = \frac{39}{12} - \frac{20}{12} =$ $\frac{19}{12}$	$\frac{19}{12}$ mi

5. Susie deposits \$12,000 into a savings account that earns an interest rate of 8% each year. If she does not deposit or withdraw any money for 4 years, how much interest will she earn? Use the formula I = prt to solve for the interest.	
6. The low temperature for 5 consecutive days in Anchorage, Alaska was as follows: -20°, -12°, -8°, -13°, and -12°. What was the average low temperature for these 5 days? $\frac{(-20)+(-12)+(-8)+(-13)+(-12)}{5} = -13$	-13
7. Two angles are complementary. If the measure of one angle is 36°, what is the measure of the second angle? $36 + x = 90$ $x = 54°$	54°
8. The distance from the airport to your vacation villa is 12.4 cm on a city map, and 1 cm represents 4 km. Find the **actual** distance in kilometers. $\frac{12.4}{x} = \frac{1}{4}$ $x = 49.6$ km	49.6 km
9. Caleb is making Crab Stuffed Potatoes. He found a recipe that will make **4 servings:** 4 large baked potatoes, $\frac{1}{2}$ c evaporated milk, $\frac{1}{3}$ c butter, 1 Tablespoon grated onion, 1 c sharp grated cheese and 1 c crabmeat. How much butter does he need to make **6 servings**? $\frac{4}{1/3} = \frac{6}{x}$ $4x = 2$ $x = 1/2$	1/2 cup
10. $(24 \div 3)^2 \div (-2)^3 =$ $8^2 \div -8 =$ $64 \div -8 =$ -8	-8

11. A factory makes sheets of metal that are 2/5 of an inch thick. If a worker at the factory makes a stack of 6 of the sheets, how many inches thick will the stack be?

$\frac{2}{5} \cdot 6 = \frac{12}{5}$

$\frac{12}{5}$ in

12. -5h - 12 + 2h + 7 = 4

$-3h - 12 + 7 = 4$

$-3h - 5 = 4$

$-3h = 9$

$h = -3$

-3

13. Adam bought a bag of chips from the store. The weight on the bag of chips was 6.2 oz. Adam wanted to know if he was getting his money's worth so he weighed the chips. He was surprised that it only weighed 5.9 ounces. What is the percent error for the weight of the bag of chips? Round to the nearest tenth of a percent, if necessary.

$\frac{0.3}{5.9} = \frac{x}{100}$ $5.9x = 30$ $x = 5.1$

5.1 %

14. The ratio of pigs to donkeys at the state fair is 2:3. The total number of animals is 65. How many of those animals are pigs?

$\frac{2}{5} = \frac{x}{65}$ $5x = 130$ $x = 26$

26 pigs

15. Find the circumference of a circle with a diameter of 5ft?

(use 3.14 for π)

3.14 · 5 = 15.70

15.7 ft

16. Find the area of a hula hoop that has a radius of 2 ft.

(use 3.14 for π)

$\pi(2)^2 = \pi \cdot 4 =$ 3.14 · 4 = 12.56

12.56 ft^2

17. Solve the following expression:

½(-6 + 10) + (-9) + (-10) =

$-3 + 5 - 9 - 10 =$

$2 - 9 - 10 = -7 - 10 = -17$

-17

18. 48 is 20 % of what number?

$\frac{48}{x} = \frac{20}{100}$ $20x = 4800$ $x = 240$

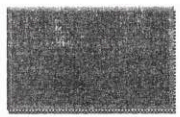
240

19. If $\frac{1}{5}$ of a can of paint will cover $\frac{1}{4}$ of a room, how much paint will be needed to cover the entire room?

$\frac{1/5}{1/4} = \frac{x}{1}$ $4/1 \cdot 1/4 x = 1/5 \cdot 4/1$ $x = 4/5$

4/5 of a can

20. A scale of 3.5 in : 6 ft was used to create this rectangle:



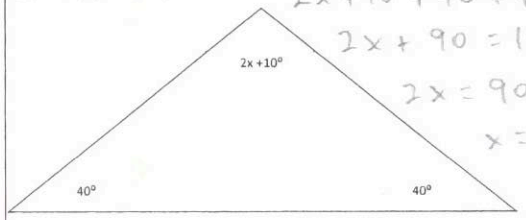
$\frac{3.5}{6} = \frac{14}{x}$ $x = 24$

$\frac{3.5}{6} = \frac{10.5}{x}$ $x = 18$

Find the area of the rectangle. $24 \cdot 18 = 432$

432 ft^2

21. Find the value of x.



$2x + 10 + 40 + 40 = 180$

$2x + 90 = 180$

$2x = 90$

$x = 45$

45

22. A family of 4 is taking a trip to Disney World. Each person will pay a total of \$122. The cost covers the \$74 admission fee and n tickets for rides. Each ticket costs \$4. How many rides can each person ride?

$74 + 4n = 122$

$4n = 48$

$n = 12$

12 rides

23. Find the unit rate if 12 pounds of potatoes cost \$10.68.

$\frac{\$10.68}{12}$ $\quad 12\overline{)10.68}$ $\quad 0.89$, 96, 108

\$0.89/lb

24. Kelly's car gets $26\frac{1}{4}$ miles per $\frac{5}{8}$ gallon of gas. Find the unit rate.

$26\frac{1}{4} \div \frac{5}{8} = \frac{105}{4} \cdot \frac{8}{5} = 42$

42 mi/gal

25. Rita's baby brother weighed $7\frac{1}{8}$ pounds when born. Since then, her brother has gained $3\frac{3}{4}$ pounds. How much does Rita's baby brother weigh now? Express the weight as a decimal.

$7\frac{1}{8} + 3\frac{3}{4} = \frac{57}{8} + \frac{15}{4} = \frac{57}{8} + \frac{30}{8} =$

$87/8 = 10\frac{7}{8} = 10.875$

10.875 pounds

26. What is the value of a in $4.33a + (-4.23) + (-1.33a) = 0$

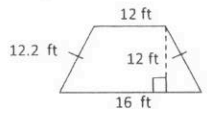
$3a - 4.23 = 0$

$3a = 4.23$

$a = 1.41$

1.41

27. If the quadrilateral below is dilated by a scale factor of 3, what will be the new perimeter?



$36 + 36.6 + 36.6 + 48 =$

157.2

157.2 ft

28. A Ferris Wheel has a radius of 16 feet. How far will you travel if you take a ride that goes around 5 times? (Round answer to the *nearest* hundredth)

29. Frances bakes 3 cakes for a party. Each cake calls for an equal amount of flour, and she uses $7\frac{1}{2}$ cups of flour altogether. How much flour is there in each cake?

$7\frac{1}{2} \div 3 = \frac{15}{2} \div \frac{3}{1} = \frac{15}{2} \cdot \frac{1}{3} = \frac{5}{2}$

$\frac{5}{2}$ cups (or 2.5)

30. If the price of a sweater is \$24.99 without tax and \$26.99 with tax, what is the tax rate as a percent?

31. Tina is comparing gas prices in six states. What is the mean price of gasoline?

Average Cost of Gas per Gallon by State	
Maine	3.84
Maryland	3.78
Michigan	3.90
Minnesota	3.76
Missouri	3.63
Montana	3.21

add and divide by 6

3.686 gal

32. Find the area of the shaded region. The square has a side length of 5 meters.

33. Mike's football team runs for 10 yards on the first play of the game. The second play, the quarterback gets sacked for a loss of 6 yards. On the third play, the quarterback completes a pass for 5 yards. On the fourth play, the quarterback is sacked again for a loss of 17 yards. How far has the football team moved?

$10 - 6 + 5 - 17 = -8$

-8 yds

34. If x = 4 and y = 3, evaluate xy -2x

$(4)(3) - 2(4) =$

$12 - 8 = 4$

4

35. The scale on the map is 1 inch for every 2.5 miles. If the distance on the map between Cary and Chapel Hill is 9 inches, how many miles apart are the two cities?

$\frac{1}{2.5} = \frac{9}{x}$ $x = 22.5$

22.5 miles

36. $3 + 4^2 \div 2 - 5 =$

$3 + 16 \div 2 - 5 =$

$3 + 8 - 5 =$

$11 - 5 = 6$

6

37. Solve $-3x + 2 = -7$

$-3x = -9$

$x = 3$

3

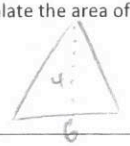
38. A round clock has a radius of 5 cm. What is the approximate area of the clock? Use 3.14 for π.

39. A football field has a total length of 120 yards but only 100 yards from goal-line to goal-line. It also has a width of 50 yards. What is the total area of the football field from goal-line to goal-line?

$100 \cdot 50 = 5000$

5000 yds

40. Susan and her brother Tommy want to split a triangle shaped cookie. The cookie has a base of 6 inches and a height of 4 inches. Calculate the area of the cookie that **each** child will receive.



$\frac{6 \cdot 4}{2} = 12$ $\frac{12}{2} = 6$

6 in²