

## Prerequisite Math Practice Test for Radiography:

### Basic Operations on Integers:

1. Evaluate:  $2(4 - 6) + 3 =$
2. Evaluate:  $(6 - 12) + (15 + (4 - 20)) =$
3. Evaluate:  $4 - 6 \div 2 \cdot -3 + 5 =$
4. Evaluate:  $(12 - 7)^2 \div 5 - 2 =$

### Ratios:

5. A pattern has 3 blue triangles to every 18 yellow triangles. What is the ratio of yellow triangles to blue triangles?
6. A bag contains 9 red marbles and 7 blue marbles. What is the ratio of red marbles to the total marbles?
7. A pattern has 5 blue triangles to every 20 yellow triangles. What is the ratio of yellow triangles to all triangles?

### Convert Between Fractions (Ratios), Decimals and Percents:

8. Write  $\frac{4}{5}$  as a decimal and percent
9. Write 35% as a decimal and a fraction
10. Write 1.25 as a percent and a fraction

### Comparing Fractions and Decimals: use $<$ , $>$ or $=$ to compare each of the following

11.  $\frac{15}{4}$        $\frac{16}{11}$
12.  $\frac{6}{5}$        $\frac{30}{25}$
13. 0.012      0.12
14. 1.201      1.015

### Calculations with Percents:

15. What is 25% of 60?
  
16. 45 is what percent of 130?
  
17. A 40% increase of 30 is how much?
  
18. A decrease from 70 to 36 is what percent?

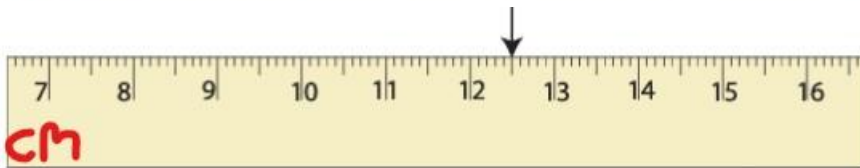
### Conversions:

19. Convert 3.5 feet to inches
  
20. Convert 4 inches to centimeters
  
21. Convert 27 centimeters to millimeters
  
22. Convert 62 millimeters to inches
  
23. Convert 1.38 liters to kiloliters
  
24. Convert 1.5 gallons to cups
  
25. Convert  $70^{\circ}\text{F}$  to Celsius
  
26. Convert  $22^{\circ}\text{C}$  to Fahrenheit

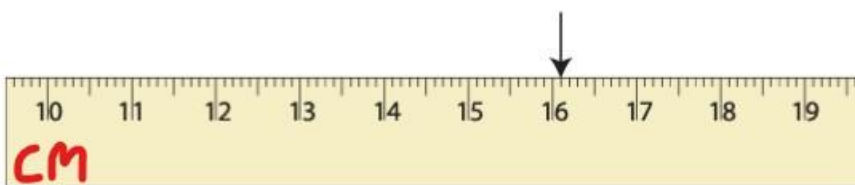
### Solving Proportions Word Problems:

27. If there is \$15 in a drawer and the ratio of money in the drawer to money in the piggy bank is 3:5, then how much money is in the piggy bank?

28. You have 10 apples and the ratio of apples to oranges is 5:2, so how many oranges do you have?
29. Knowing there are 2.2 pounds in one kilogram, how many kilograms does a person weigh if they are 165 pounds?
30. Knowing there are 2.2 pounds in one kilogram, how many pounds does a person weigh if they are 62 kilograms?
31. Knowing there are 60 drops in a teaspoon, how many teaspoons are 105 drops?



cm: \_\_\_\_\_ mm: \_\_\_\_\_



cm: \_\_\_\_\_ mm: \_\_\_\_\_

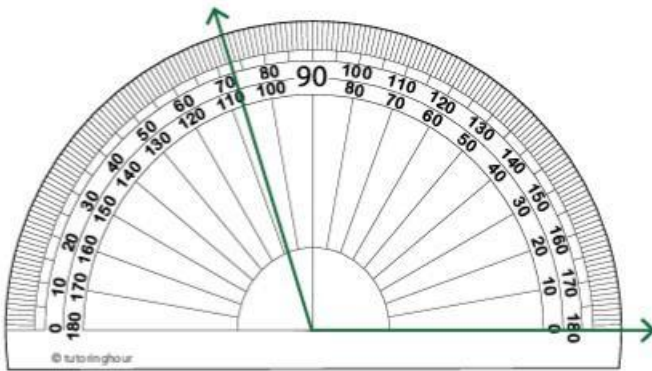
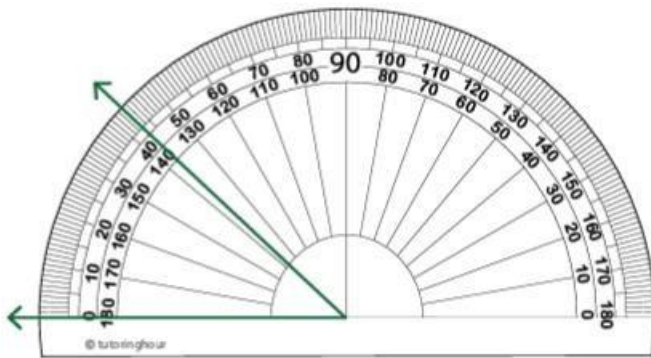
Reading a ruler: give the measurements indicated by the pointer

33.

34.

35.

Reading a Protractor:

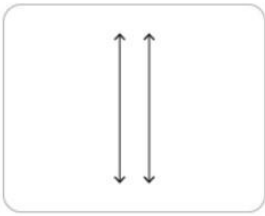


36.

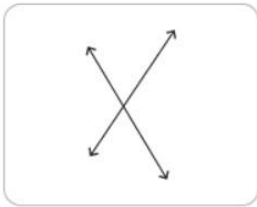
37.

## Parallel and Perpendicular Lines:

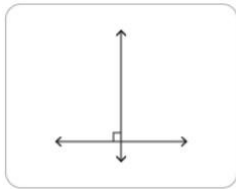
Name the following pairs of lines as parallel, perpendicular, or intersecting lines 38.



39.



40.



Solving: find the value of  $x$  that makes the equation true

41.  $x + 6 = 10$

42.  $-5 + x = 12$

43.  $4x = -8$

44.  $\frac{2}{3}x = 5$

45.  $-x - 6 = 15$

46.  $6x + 2 = 14$

$$47. \quad 4(x - 5) = 2$$

$$48. \quad \frac{x - 3}{x + 18} = \frac{27}{18}$$

$$49. \quad \frac{x - 4.6}{x + 1.2} = 8.3$$

$$50. \quad \frac{\frac{4.22}{0.2}}{1.68} = \frac{\quad}{\quad}x$$