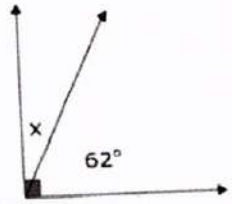
udy Guide FINAL EXAM – Part 2

1. What is the solution to the equation $5(x + 1) = -20$?

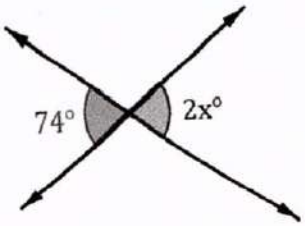
$5x + 5 = -20$
$-5 \quad -5$
$\frac{5x}{5} = \frac{-25}{5}$
$x = -5$

2. What is the measure of x in the figure?



$62 + x = 90$
$-62 \quad -62$
$x = 28°$

3. What is the value of x in the figure?



$\frac{2x}{2} = \frac{74}{2}$
$x = 37°$

4. A triangle has angle measures of 145°, 25°, and 10°. The triangle has no congruent sides. Classify the triangle by its angles and sides.

obtuse scalene

5. What is the scale factor of a drawing if the scale is 1 inch = 6 feet?

$\frac{1\text{in}}{6\text{ft.} \times 12} = \frac{1\text{in}}{72\text{in}} = \frac{1}{72}$

both need to be same units

6. If Michelle rollerblades around a circular track with a radius of 60 meters, how far does she skate? Use 3.14 for pi. Round to the nearest tenth.

$C = 2\pi r$
$= 2(3.14)(60)$
$= 376.8\text{m}$

7. A large pizza at Angelo's Pizzeria has a diameter of 20 inches. What is the area of the pizza? Use 3.14 for pi. Round to the nearest tenth.

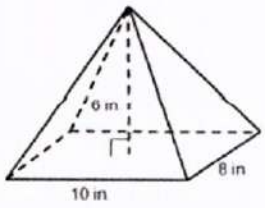
$A = \pi r^2$
$= 3.14(10)^2$
$= 314\text{in}^2$

8. What is the volume of the pyramid shown?

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

$= \frac{1}{3}(10)(8)(6)$ $= \frac{1}{3}(80)(6)$

$= 160 in^3$ $= 160 in^3$



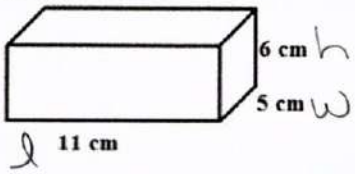
9. What is the surface area of the rectangular prism shown?

$SA = 2lw + 2lh + 2wh$

$= 2(11)(5) + 2(11)(6) + 2(5)(6)$

$= 110 + 132 + 60$

$= 302 cm^2$



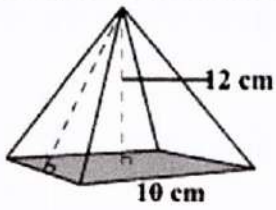
10. The square pyramid has base side lengths of 10 centimeters and a slant height of 12 centimeters. What is the total surface area of the pyramid?

$A_{sq} = lw$ $A_{\triangle} = \frac{1}{2}bh$ $SA = B + \frac{1}{2}Pl$

$= 10(10)$ $= \frac{1}{2}(10)(12)$ $= 100 + \frac{1}{2}(40)(12)$

$= 100$ $= 60 \times 4 = 240$ $= 100 + 240$

$100 + 240 = 340 cm^2$ $= 340 cm^2$



11. A jar contains 6 pennies, 4 nickels, 5 dimes, and 3 quarters. If a coin is selected at random, what is the probability of selecting a penny?

$P(penny) = \frac{6 \div 6}{18 \div 6} = \frac{1}{3}$

12. Find the number of possible outcomes of tossing a penny five times.

$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 32$

13. A computer store builds custom computers by allowing customers to choose 1 of 5 different CPUs, 1 of 4 hard drives, and 1 of 6 video cards. How many different computers are possible?

$5 \cdot 4 \cdot 6 = 120$

14. In an obstacle course race, how many ways can six finalists be ordered?

$6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 720$

15. Create two dependent events.

Pulling a marble from a bag, not replacing it & pulling another marble.

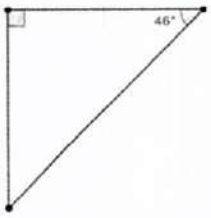
16. What is the solution to the equation $2x + 14 = 8$?

$-14 \quad -14$

$\frac{2x}{2} = \frac{-6}{2}$

$x = -3$

17. Write and solve an equation to find the missing measure.



$90 + 46 + x = 180$

$136 + x = 180$

$-136 \quad -136$

$x = 44°$

18. Find the area of the figure. Use 3.14 for pi. Round to the nearest tenth.

$A_{\square} = lw$

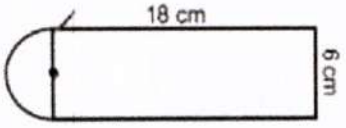
$= 18(6)$

$= 108$

$A_{circle} = \frac{\pi r^2}{2}$ > semicircle

$= \frac{3.14(3)^2}{2}$

$= 14.13$



$108 + 14.13 = 122.13 cm^2$

19. Ronaldo rolled a number cube 50 times. During these trials he rolled the number 5 a total of 14 times. Based on these trials, what is the probability of rolling a 5? Does this represent a theoretical or experimental probability? Explain.

$\frac{14 \div 2}{50 \div 2} = \frac{7}{25}$ Experimental because the probability was based from an experiment that was performed. Theoretical probability would be $\frac{1}{6}$.

20. What is the probability of tossing a penny and landing on heads five times in a row? Write your answer as a fraction, decimal, and percent.

$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 32$ $\frac{1}{32} = 0.03125 = 3\%$

21. Complete all parts.

a. Which operation should be performed **first** to solve the inequality **$-6x + 5 > -19$** ?

Subtract 5 on both sides

b. Solve the inequality.

$-6x + 5 > -19$

$-5 \quad -5$

$\frac{-6x}{-6} > \frac{-24}{-6}$

$x < 4$

c. Graph the solution to the inequality.