

Name _____

Score _____

1. Three out of four doctors surveyed recommended the product. Sixty doctors surveyed did not recommend the product. How many doctors were surveyed?

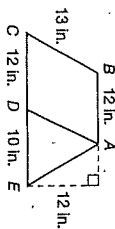
2. A used-car salesperson purchased a car for \$4000 and sold it for 40% more. What was the selling price of the car?

3. Five minutes is what percent of an hour?

4. Factor: $2x^2 + 3x$

5. During the season a basketball player made 24 out of 40 free throws. What is the probability that the player will make her next free throw?

For questions 6–8, refer to the figure.



6. Find the area of parallelogram ABCD.

7. Find the area of trapezoid ABCE.

8. Find the area of triangle ADE.

9. Graph $y = \frac{1}{2}x + 1$. Does the graph indicate direct variation? Why or why not?

10. The sides of a square are increased by a scale factor of 2. The area of the larger square is what percent of the area of the smaller square?

11. Use two unit multipliers to convert 54 square feet to square yards.

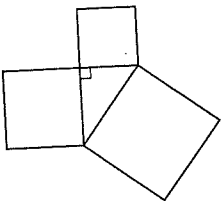
12. Sketch a net of this triangular prism.



13. A formula for the following sequence is $a_n = 2n - 1$
1, 3, 5, 7, ...

Find the 50th term of the sequence.

14. This figure illustrates



- A. the area of the triangle.
B. the perimeter of a triangle.
C. a triangular prism.
D. the Pythagorean Theorem.

- For questions 15 and 16, solve for x.
15. $4x - x - 5 = 7$

16. $\frac{x}{4} = \frac{5.6}{2.8}$

For questions 17–20, simplify the expression.

17. $\frac{1.2 \times 10^6}{2 \times 10^2}$

18. $\frac{24x^3y^{-1}}{16x^2y^2}$

19. $\sqrt[3]{3600}$

20. $\sqrt{18}$

PRE-ALGEBRA STUDY GUIDE

Room #	1	2	3
Net Room	1	60	X
Total	4	X	

$60 \cdot 4 = 240$
 $240 \div 1 = 240$ dollars
 $1 = \frac{60}{X}$

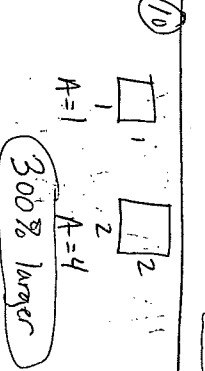
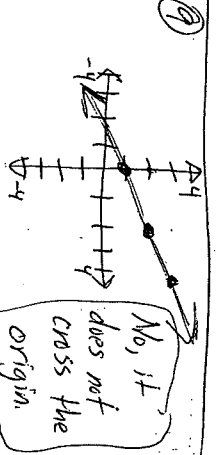
Old \$	4000	100
Total	?	140

$4000 = 100 \cdot X$
 $4000 \div 100 = 40$
 $56000 \div 100 = 560$

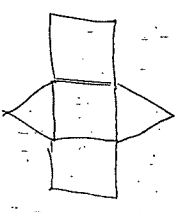
$A = 80 \cdot h$
 $A = 120 \cdot 12$
 $A = 1440 \text{ in}^2$

$A = \frac{1}{2} \cdot (b_1 + b_2) \cdot h$
 $A = \frac{1}{2} \cdot (22 + 12) \cdot 12$
 $A = \frac{1}{2} \cdot 34 \cdot 12$
 $A = 204 \text{ in}^2$

$A = (b \cdot h) \div 2$
 $A = (10 \cdot 12) \div 2$
 $A = 120 \div 2$
 $A = 60 \text{ in}^2$



$54 \cdot A^3 = \left(\frac{1 \text{ yd}}{3 \text{ ft}}\right)^3 \cdot \left(\frac{1 \text{ yd}}{3 \text{ ft}}\right)^3$
 $= \frac{54}{9}$
 $= 6 \text{ yd}^2$



$a_n = 2n - 1$
 $a_{50} = (2 \cdot 50) - 1$
 $a_{50} = 100 - 1$
 $a_{50} = 99$



$4x - 1x - 5 = 7$
 $3x - 5 = 7$
 $3x = 12$
 $x = 4$

$\frac{x}{4} = \frac{5.6}{2.8}$
 $5.6 \cdot 4 = 22.4$
 $22.4 \div 2.8 = 8$
 $x = 8$

1.2×10^5 subtr.
 2×10^{-2}
 $12 \div 2 = 0.6$
 $5 - (-2) = 7$
 0.6×10^7
 6×10^6
 OR
 $120000 \div 0.2 = 6,000,000$

$\frac{24 \times 3^3 \cdot 7^2}{16 \times 2^2 \cdot 7^2} = \frac{24 \times 3^3}{16 \times 2^2} = \frac{24 \times 27}{16 \times 4} = \frac{648}{64} = 10.125$
 $\frac{24 \cdot 3 \cdot 7}{16 \cdot 4 \cdot 7 \cdot 7} = \frac{24 \cdot 3}{16 \cdot 4} = \frac{72}{64} = \frac{9}{8}$

$\sqrt{3600} = 60$
 $\sqrt{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 5} = 2 \cdot 3 \cdot 3 \cdot 5 = 60$

$\sqrt{18} = 3\sqrt{2}$
 $\sqrt{2 \cdot 3 \cdot 3} = 3\sqrt{2}$
 $\sqrt{3} = 1.732$
 $\sqrt{2} = 1.414$

$\frac{24}{40} \div 4 = \frac{6}{10} \div 2 = \frac{3}{5}$

$2x^2 + 3x$
 $x(2x + 3)$

$5 \text{ out of } 60$
 $5 \div 60 = \frac{1}{12} = 8.3\%$