

1. At 6 a.m. the temperature was  $-4^{\circ}\text{F}$ . By noon the temperature had increased  $12^{\circ}$ . What was the temperature at noon?

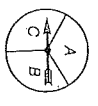
2. The ratio of the length to the width of a rectangular field is 3 to 2. If the field is 120 yards long, how wide is the field?

3. The table shows the results of a 100-meter race including the time in seconds for the first three finishers. The first-place finisher ran how much faster than the second-place finisher?

100 m Dash Results		
1st	Darryl	13.89
2nd	Jenna	14.02
3rd	Dolores	14.43

4. At  $\$2.249$  per gallon for regular gasoline, what is the cost to the nearest cent of 9.1 gallons?

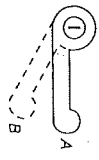
For questions 5 and 6 refer to this spinner divided into three congruent sectors.



5. If the spinner is spun twice, what is the sample space of the experiment?

6. If the spinner is spun twice, what is the probability that the spinner will stop in sector A at least once?

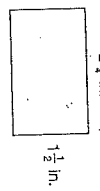
7. A door handle turns from position A to position B. This is an example of a



- A. translation  
B. rotation  
C. reflection  
D. dilation

8. The mean distance of Venus from the Sun is about  $1.08 \times 10^8$  km. Write that number in standard form.

For questions 9 and 10, refer to the rectangle.



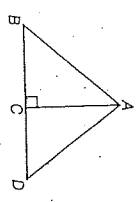
9. What is the perimeter of the rectangle?

10. What is the area of the rectangle?

11. Write  $\frac{1}{5}$  as a decimal and as a percent.

12. Use prime factorization to reduce  $\frac{288}{360}$ .

13. Triangles ABC and DAC are similar. Which side of  $\triangle DAC$  corresponds to side AB of  $\triangle ABC$ ?



14. Solve by inspection:  $\frac{4}{x} = \frac{12}{21}$

For questions 15-20, simplify the expression.

15.  $(-6) + (-12)$

16.  $(-6) - (-9)$

17.  $\frac{7}{8} - \frac{1}{2} + \frac{2}{3}$

18.  $\frac{4.6 - 1.27}{(0.3)(0.3)}$

19.  $5^2 - 3(4 - 2) + \sqrt{49}$

20.  $\frac{x^3 \cdot x^5}{x \cdot x^2}$

PRE-ALGEBRA  
STUDY GUIDE

<p>1. <math>-4^{\circ}\text{F} + 12^{\circ}\text{F} = 8^{\circ}\text{F}</math></p>	<p>6. Probability of at least one A = 5 out of 9 <math>\frac{5}{9}</math></p>
<p>2. Length = <math>\frac{3 \times 120}{2 \times 1111}</math> Width = <math>\frac{2 \times 120}{3 \times 1111}</math> <math>2 \times 120 = 3 \times x</math> <math>240 = 3x</math> <math>240 \div 3 = 80</math> yards</p>	<p>7. B Rotation</p>
<p>3. <math>14^{\circ} 82</math> <math>-13^{\circ} 89</math> <u>          </u> 0.13 seconds</p>	<p>8. <math>1.08 \times 10^8</math> <math>108,000,000</math> km</p>
<p>4. <math>2.244</math> <math>\times 9.1</math> <u>          </u> <math>20.4654 \approx 20.47</math></p>	<p>9. <math>P = 2\frac{1}{4} + 2\frac{1}{4} + 1\frac{1}{2} + 1\frac{1}{2}</math> <math>P = 2.25 + 2.25 + 1.5 + 1.5</math> <math>P = 4.50 + 3</math> <math>P = 7.5</math> inches</p>
<p>5. Sample Space (AA, AB, AC, BA, BB, BC, CA, CB, CC)</p>	<p>10. <math>A = 2\frac{1}{2} \cdot \frac{1}{2}</math> <math>A = \frac{2}{4} \cdot \frac{1}{2}</math> <math>A = \frac{2}{8}</math> or <math>3\frac{3}{8}</math> in<sup>2</sup></p>

<p>11. <math>1 \div 6 = 0.1\bar{6}</math> <math>0.16666 \approx 16.6\%</math></p>	<p>16. <math>(-6) - (-9)</math> <math>(-6) + (9)</math> 3</p>
<p>12. <math>\frac{288}{360} \div 2 = \frac{144}{180} \div 2 = \frac{72}{90} \div 2 = \frac{36}{45}</math> <math>\frac{4}{5}</math></p>	<p>17. <math>7 - \frac{1}{2} + \frac{2}{3}</math> <math>\frac{7}{8} = \frac{7}{8}</math> <math>-\frac{1}{2} = \frac{4}{8}</math> <math>\frac{3}{8} = \frac{3}{8}</math> <math>\frac{3}{8} - \frac{4}{8} + \frac{2}{8} = \frac{1}{8}</math> <math>\frac{1}{8} = \frac{1}{24}</math> or <math>1\frac{1}{24}</math></p>
<p>13. SIDE AD</p>	<p>18. <math>\frac{4.6 - 1.27}{(0.3)(0.3)} = \frac{3.33}{0.09} = 37</math></p>
<p>14. <math>\frac{4}{12} = \frac{1}{3}</math> <math>\frac{21}{84} = \frac{1}{4}</math> <math>12x = 84</math> <math>21 \cdot 4 = 84</math> <math>12 \cdot x = 12x</math> <math>84 + 12 = 96</math> 7</p>	<p>19. <math>5^2 - 3 \cdot (4 - 2) + \sqrt{49}</math> <math>25 - 3 \cdot (2) + 7</math> <math>25 - 6 + 7</math> <math>19 + 7</math> 26</p>
<p>15. <math>(-6) + (-12)</math> -18</p>	<p>20. <math>\frac{3 \cdot 5}{1 \cdot 2} = \frac{15}{2}</math> <math>\frac{15}{2} \cdot \frac{2}{3} = 5</math> 5</p>