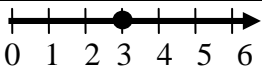
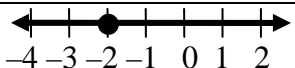

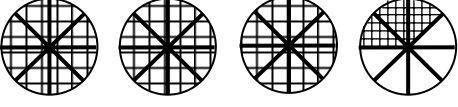


Math 0306 Final Exam Review

	Problem	Section	Answers
	Whole Numbers		
1.	According to the 1990 census, the population of Nebraska is 1,578,385, the population of Nevada is 1,201,833, the population of New Hampshire is 1,109,252, and the population of New Mexico is 1,515,069. Which of the four states has the greatest population?	1.2	Nebraska
2.	Add: $\begin{array}{r} 314,892 \\ 77,413 \\ +109,842 \\ \hline \end{array}$	1.2	502,147
3.	Find the sum of 923,411 and 21,327.	1.2	944,738
4.	Evaluate $a + b + c$ when $a = 2,307$, $b = 9,765$, and $c = 5,739$.	1.2	17,811
5.	Subtract: $\begin{array}{r} 35,021 \\ -9,086 \\ \hline \end{array}$	1.3	25,935
6.	Find 92,061 decreased by 29,432.	1.3	62,629
7.	You have a checking account balance of \$1,509. You then wrote checks for \$179, \$413, and \$27. Find the new checking account balance.	1.3	\$890
8.	Round 549,601 to the nearest thousand.	1.4	550,000
9.	Estimate the sum of 924, 736, 182, and 507.	1.4	2,300
10.	Estimate the difference between 65,271 and 24,903.	1.4	50,000
11.	Estimate the product of 5,549 and 33.	1.4	180,000
12.	Multiply: $975 \cdot 4$.	1.5	3,900
13.	Multiply: $\begin{array}{r} 796 \\ \times 309 \\ \hline \end{array}$	1.5	245,964
14.	What is the product of 300, 5, 70, and 0.	1.5	0

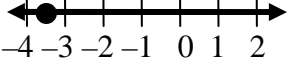
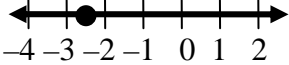
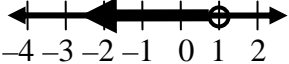
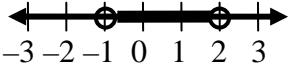
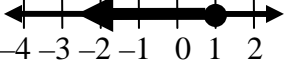
15.	Evaluate $2st$ when $s = 45$ and $t = 67$.	1.5	6,030
16.	Divide: $6 \overline{)38,029}$	1.6	6338 r1
17.	Divide: $4,207 \div 309$.	1.6	13 r190
18.	What is the quotient of 3096 and 8?	1.6	387
19.	Evaluate $\frac{x}{y}$ when $x = 23,680$ and $y = 8$.	1.6	2,960
20.	A consumer makes a down payment of \$1,500 on a computer system costing \$5,820. The balance is to be repaid in 24 equal monthly payments. What is the monthly payment?	1.6	\$180
21.	Write $a \cdot a \cdot a \cdot a \cdot b \cdot b \cdot b$ in exponential form.	1.7	a^4b^3
22.	Evaluate: $6 \cdot 2^3 \cdot 3^2$.	1.7	432
23.	Find the cube of 9.	1.7	729
24.	Evaluate a^4b^3 when $a = 2$ and $b = 3$.	1.7	432
25.	Simplify: $12 - 3(10 - 2) \div 6$.	1.7	8
26.	Simplify: $2^2 + 3(6 - 1) - 3$.	1.7	16
27.	Evaluate: $2x + (x - y)^3$ when $x = 9$ and $y = 7$.	1.7	26
28.	Graph 3 on the number line.	2.1	
29.	Place the correct symbol, $<$, $=$, or $>$, between these two numbers: 6409 6490.	2.1	$<$
Integers			
30.	Graph x on the number line when $x = -2$.	2.1	
31.	Find the opposite of $-v$.	2.1	v
32.	Find the absolute value of -16 .	2.1	16
33.	Which is the highest temperature, -8°C , -17°C , -29°C , or -6°C ?	2.1	-6°C

34.	Add: $-8 + (-7)$.	2.2	-15
35.	Add: $4 + (-5)$.	2.2	-1
36.	Add: $-17 + (-4) + 13 + (-6)$.	2.2	-14
37.	Subtract: $5 - (-6)$.	2.3	11
38.	Subtract: $4 - 9$.	2.3	-5
39.	Subtract: Subtract: $(-6) - (-4)$.	2.3	-2
40.	Subtract: $5 - (-6) - (-1)$.	2.3	12
41.	Simplify: $-44 + 24 - (-18) - 3$.	2.3	-5
42.	Evaluate $-x - (-y) - z$ when $x = 9$, $y = 1$, and $z = -15$.	2.3	7
43.	Multiply: $-5(7)(-4)$.	2.4	140
44.	What is the product of -40 and 60 ?	2.4	-2400
45.	Evaluate $x(-y)$ when $x = -4$ and $y = -9$.	2.4	-36
46.	Divide: $-128/8$.	2.4	-16
47.	What is -480 divided by -40 ?	2.4	12
48.	Evaluate $-m \div n$ when $m = -28$ and $n = -7$.	2.4	-4
49.	The boiling point of radon is -62°C . The melting point of neon is four times the boiling point of radon. Find the melting point of neon?	2.4	-248°C
50.	Simplify: $(-3)^3 \cdot (3-7)^2 - (-8) \div 2$.	2.5	-428
51.	Evaluate $(b-c)^2 - 2d$ when $b = 4$, $c = -1$, and $d = -2$.	2.5	29
Fractions			
52.	Find all the factors of 56.	4.2	1, 2, 4, 7, 8, 14, 28, 56
53.	Find the prime factorization of 150.	4.2	$2 \cdot 3 \cdot 5^2$

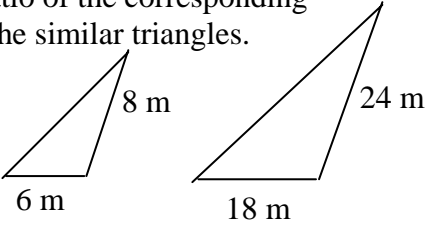
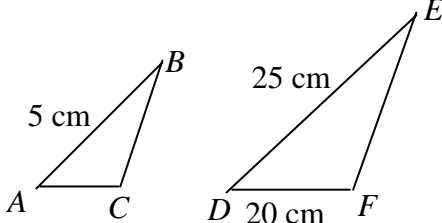
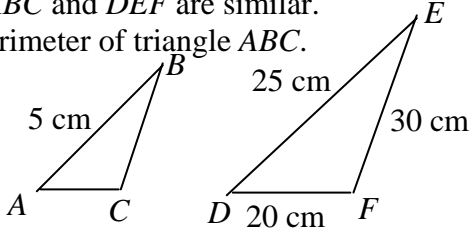
54.	Find the LCM of 13, 27, and 39.	4.4	351
55.	Express the shaded portion of the figure as a fraction. 	4.1	$\frac{3}{4}$
56.	Express the shaded portion of the circles as an improper fraction and as a mixed number. 	4.1	$\frac{27}{8}$; $3\frac{3}{8}$
57.	Write $\frac{25}{6}$ as a mixed number or a whole number.	4.1	$4\frac{1}{6}$
58.	Write $4\frac{2}{9}$ as an improper fraction.	4.1	$\frac{38}{9}$
59.	Write $\frac{35}{49}$ in simplest form.	4.2	$\frac{5}{7}$
60.	In a history class, 3 students received an A, 4 students received a B, 6 students received a C, and 2 students received a D. What fraction of the students in the class received an A?	4.2	$\frac{1}{5}$
61.	Multiply: $\frac{7}{6} \cdot \frac{15}{2}$.	4.3	$\frac{35}{4}$
62.	Multiply: $\frac{5}{6} \cdot \frac{18}{25} \cdot \frac{5}{9}$.	4.3	$\frac{1}{3}$
63.	Multiply: $-21 \cdot \frac{3}{14}$.	4.3	$-4\frac{1}{2}$
64.	Divide: $0 \div \frac{3}{5}$.	4.3	0
65.	Divide: $\frac{9}{7} \div \frac{-3}{2}$.	4.3	$-\frac{6}{7}$
66.	Evaluate $x \div y$ when $x = -\frac{2}{3}$ and $y = \frac{8}{21}$.	4.3	$-1\frac{3}{4}$
67.	Write a fraction that is equivalent to $\frac{2}{7}$ and has a denominator of 42.	4.4	$\frac{12}{42}$
68.	Add: $\frac{1}{10} + \frac{3}{10} + \frac{1}{10}$.	4.4	$\frac{1}{2}$

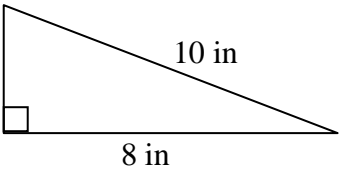
69.	Place the correct symbol, <, =, or >, between the two numbers. $\frac{5}{6}$ $\frac{7}{9}$	4.5	>
70.	Add: $-\frac{5}{6} + \frac{3}{4}$.	4.5	$-\frac{1}{12}$
71.	Find the sum of $-\frac{7}{15}$ and $-\frac{11}{18}$.	4.5	$-1\frac{7}{90}$
72.	Evaluate $x + y$ when $x = \frac{4}{21}$ and $y = -\frac{25}{28}$.	4.5	$-\frac{59}{84}$
73.	Subtract: $\frac{2}{3} - \frac{3}{4} - \frac{1}{6}$.	4.5	$-\frac{1}{4}$
74.	Subtract: $-\frac{11}{20} - \frac{7}{30}$.	4.5	$-\frac{47}{60}$
75.	Two inlet pipes are being used to fill a tank. After one hour, the smaller pipe has filled $\frac{2}{7}$ of the tank and the larger pipe has filled $\frac{1}{3}$ of the tank. How much of the tank remains to be filled?	4.5	$\frac{8}{21}$
76.	Simplify: $\frac{\frac{18}{15}}{\frac{11}{11}}$.	4.6	$-\frac{6}{5}$
77.	Simplify: $\left(\frac{3}{4}\right)^2 + \frac{9-7}{8-5} \div \frac{1}{3}$.	4.6	$2\frac{9}{16}$
78.	Add: $3\frac{4}{5} + 2\frac{9}{10} + 4\frac{1}{2}$.	4.7	$11\frac{1}{5}$
79.	What is $5\frac{7}{10}$ more than $3\frac{5}{6}$?	4.7	$9\frac{8}{15}$
80.	Subtract $6\frac{5}{9} - 3\frac{11}{12}$.	4.7	$2\frac{23}{36}$
81.	What is $\frac{7}{10}$ less than $3\frac{5}{8}$?	4.7	$2\frac{37}{40}$
82.	Evaluate $x - y$ when $x = 4\frac{2}{9}$ and $y = 1\frac{4}{15}$.	4.7	$2\frac{43}{45}$
83.	What is $3\frac{7}{12}$ multiplied by $3\frac{3}{7}$?	4.7	$12\frac{2}{7}$
84.	Find $4\frac{6}{7}$ divided by $3\frac{1}{2}$.	4.7	$1\frac{19}{49}$

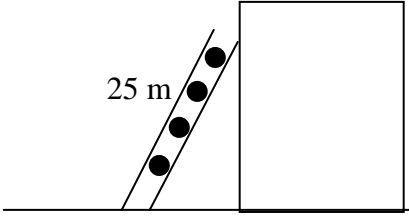

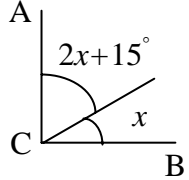
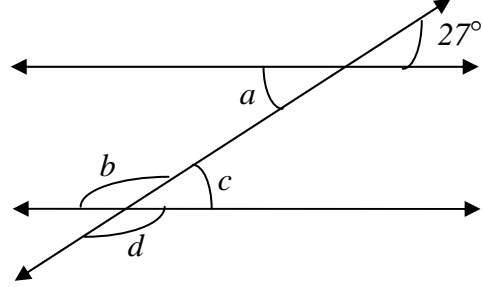
	Decimals		
85.	Write 0.83 as a fraction.	5.1	$\frac{83}{100}$
86.	Write 4.007 in words.	5.1	four and seven thousandths
87.	Write nineteen and seven thousand eight hundred thirteen hundred-thousandths in standard form.	5.1	19.07813
88.	Round 816.3904 to the nearest thousandth.	5.1	816.390
89.	Convert 0.46 to a fraction.	5.1	$\frac{23}{50}$
90.	Add: $-6.08 + 3.1 + 12.614$.	5.2	9.634
91.	Subtract: $205.26 - (-62.043)$.	5.2	267.303
92.	What is the sum of 0.94, 0.372, 0.028, and 0.627?	5.2	1.967
93.	You have a monthly budget of \$720. This month you have already spent \$25.68 for the telephone bill, \$52.94 for food, \$18.50 for gasoline \$180 for rent, and \$83.76 for a loan repayment. How much money do you have left in the budget for the remainder of the month?	5.2	\$359.12
94.	Multiply: $-7.25(0.009)$.	5.3	-0.06525
95.	Find the product of 3.66 and 10^3 .	5.3	3,660
96.	Evaluate cd when $c = -2.426$ and $d = -8.2$.	5.3	19.8932
97.	Divide and round to the nearest thousandth: $(-0.5094) \div (-6.81)$.	5.4	0.075
98.	What is 42.012 divided by 10^2 ?	5.4	0.42012
99.	Write $\frac{541}{1,000}$ as a decimal.	5.5	0.541
100.	Convert $5\frac{5}{6}$ to a decimal. Place a bar over the repeating digits of a repeating decimal.	5.5	$5.8\bar{3}$
101.	Place the correct symbol, $<$, $=$, or $>$, between the two numbers. $\frac{2}{7}$ 0.28	5.5	$>$

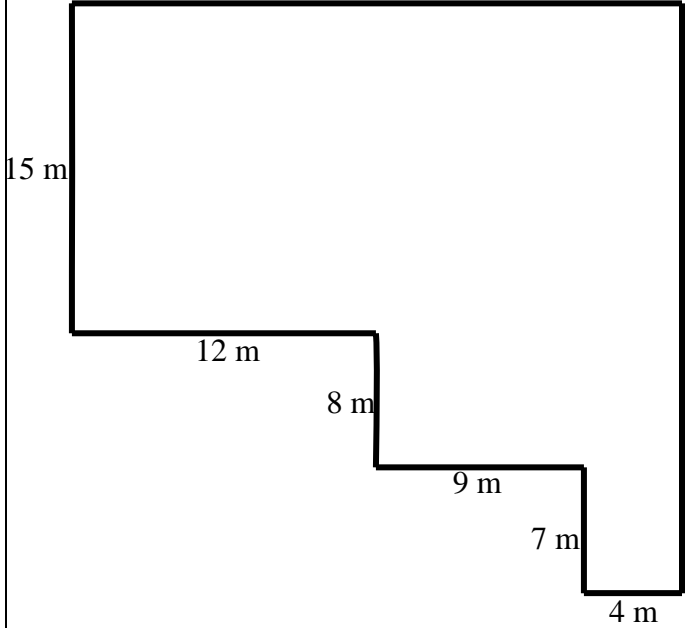
102.	Simplify $\sqrt{144}$.	6.4	12
103.	Simplify: $\sqrt{\frac{16}{25}}$.	6.4	$\frac{4}{5}$
104.	Graph $-3\frac{1}{2}$ on the number line.	Real # Supp	
105.	Graph -2.5 on the number line.	Real # Supp	
106.	Graph all real numbers less than 1.	Real # Supp	
107.	Graph the real numbers between -1 and 2 .	Real # Supp	
108.	Graph $x \leq 1$ on the real number line.	Real # Supp	
Combining Like Terms			
109.	Simplify: $(-4t) \cdot 8$.	3.1	$-32t$
110.	Simplify: $-\frac{2}{3}(12x)$.	3.1	$-8x$
111.	Simplify: $-3(2x - 5)$.	3.1	$-6x + 15$
112.	Simplify: $-(2a + 5b + 1)$.	3.1	$-2a - 5b - 1$
113.	Simplify: $-2x^2 + 6x + 1 + 10x^2 - 8x - 1$.	3.1	$8x^2 - 2x$
114.	Simplify: $7b - 2[3(4 - b) - 5(2b + 1)]$.	3.1	$33b - 14$
Solving Equations			
115.	Is 2 a solution of $4y - 3 = 2(y - 4) + 9$?	2.6	Yes
116.	Solve: $a + 12 = -2$.	2.6	-14
117.	Solve: $6 + a = 4$.	2.6	-2
118.	Solve: $-8 = -7 + x$.	2.6	-1
119.	Solve: $-2x = 14$.	2.6	-7
120.	Solve: $-36 = 9y$.	2.6	-4

121.	Solve: $-5x = -30$.	2.6	6
122.	Solve: $\frac{n}{2} = 12$.	2.6	24
123.	Solve: $3y - 11 = -5$.	2.6	2
124.	Solve: $5 = -8b + 13$.	2.6	1
125.	Solve: $0 = 15 - 5b$.	2.6	3
126.	Solve: $-2x + 3 = -5$.	2.6	4
127.	Solve: $3x - 5 = 5x + 7$.	3.3	-6
128.	Solve: $-3w - 4 = 5w - 20$.	3.3	2
129.	Solve: $x - \frac{3}{4} = -\frac{5}{8}$.	4.8	$\frac{1}{8}$
130.	Solve: $\frac{3}{5}y = -9$.	4.8	-15
131.	Solve: $-20 = -\frac{3}{4}x$.	4.8	$\frac{80}{3}$
132.	Solve: $3v - \frac{3}{5} = \frac{12}{5}$.	4.8	1
133.	Solve: $2n + \frac{1}{2} = -\frac{7}{4}$.	4.8	$-\frac{9}{8}$
134.	Solve: $\frac{x}{7} - 2 = -1$.	4.8	7
135.	Solve: $\frac{2}{3}x - 3 = 5$.	4.8	12
136.	Solve: $11 - 3n = 2n + 9$.	4.8	$\frac{2}{5}$
137.	Solve: $4 - 2(x - 3) = 5$.	4.8	$\frac{5}{2}$
138.	Solve: $5 - 5x = 7x - 3(5x - 6)$.	4.8	$\frac{13}{3}$
139.	Solve: $2(3 - 5a) + 6a = 3(a + 4)$.	4.8	$-\frac{6}{7}$
	Ratios, Proportion, and Percent		
140.	Write the comparison 12 lb to 9 lb as a ratio in simplest form using a fraction.	6.1	$\frac{4}{3}$

141.	Write "40 mi in 12 h" as a rate in simplest form.	6.1	$\frac{10\text{mi}}{3\text{h}}$
142.	Write "\$33,000 earned in 12 months" as a unit rate.	6.1	\$2,750/month
143.	Which proportion $\left(\frac{2}{3} = \frac{44}{66}, \frac{5}{9} = \frac{30}{45}, \frac{5}{8} = \frac{35}{64}, \text{ or } \frac{1}{2} = \frac{30}{50}\right)$ is true?	6.2	$\frac{2}{3} = \frac{44}{66}$
144.	Solve: $\frac{7}{12} = \frac{n}{144}$.	6.2	84
145.	Solve: $\frac{5}{y} = \frac{30}{82}$. Round to the nearest hundredth.	6.2	13.67
146.	Solve: $\frac{5}{2} = \frac{20}{n+2}$	6.2	6
147.	A stock investment of 400 shares paid a dividend of \$320. At this rate, how many additional shares are required to earn a dividend of \$500?	6.3	225 additional shares
148.	Find the ratio of the corresponding sides for the similar triangles. 	6.5	$\frac{1}{3}$
149.	Triangles ABC and DEF are similar. Find side AC . 	6.5	4 cm
150.	Triangles ABC and DEF are similar. Find the perimeter of triangle ABC . 	6.5	15 cm
151.	Write 8% as a fraction.	7.1	$\frac{2}{25}$
152.	Write $\frac{3}{4}$ % as a fraction.	7.1	$\frac{3}{400}$

153.	Write $6\frac{3}{4}\%$ as a fraction.	7.1	$\frac{27}{400}$
154.	Write 7.3% as a decimal.	7.1	0.073
155.	Write 125% as a decimal.	7.1	1.25
156.	Write 37% as a decimal.	7.1	0.37
157.	Write 0.065 as a percent.	7.1	6.5%
158.	Write 1.6 as a percent.	7.1	160%
159.	Write 0.96 as a percent.	7.1	96%
160.	Write $\frac{7}{20}$ as a percent.	7.1	35%
161.	Write $1\frac{1}{5}$ as a percent.	7.1	120%
162.	Write $\frac{5}{12}$ as a percent. Round to the nearest tenth of a percent.	7.1	41.7%
163.	What percent of 75 is 50 ?	7.2	$66\frac{2}{3}\%$
164.	What percent of 90 is 36?	7.2	40%
165.	32% of what is 19.2?	7.2	60
166.	Find $16\frac{2}{3}\%$ of 66.	7.2	11
167.	16 is what percent of 10?	7.2	160%
Geometric Figures			
168.	Find the unknown side of the triangle. Round to the nearest hundredth. 	6.4	6 in.

169.	<p>A ladder 25 m long is leaning against a building. How high on the building will the ladder be when the bottom of the ladder is 7 m from the building? Round to the nearest thousandth.</p> 	6.4	24 m
170.	Determine the complement of a 75° angle.	9.1	15°
171.	Determine the supplement of a 127° angle.	9.1	53°
172.	<p>Given $BC = 18$ mm and AB is two-thirds the length of BC, find the length of AC.</p> 	9.1	30 mm
173.	<p>Given that $\angle ABC$ is a right angle, determine the measure of $\angle x$.</p> 	9.1	25°
174.	<p>$L_1 \parallel L_2$. Find the measure of angles a, b, c, and d.</p> 	9.1	<p>angle $a = 27^\circ$ angle $b = 153^\circ$ angle $c = 27^\circ$ angle $d = 153^\circ$</p>
175.	A triangle has a 21° angle and a 64° angle. Find the measure of the other angle.	9.1	95°
176.	A right triangle has a 71° angle. Find the measure of the other two angles.	9.1	$90^\circ, 19^\circ$
Perimeter, Area, and Volume			
177.	Find the perimeter of a triangle with sides 21.3 cm, 17.4 cm, and 14.8 cm.	9.2	53.5 cm

178.	Find the circumference of a circle with a radius of 6 cm. Use $\pi \approx 3.14$.	9.2	37.68 cm
179.	Find the exact circumference of a circle with a diameter of 35 ft.	9.2	35π ft
180.	Find the perimeter of a rectangle with a length of 3 m and a width of 0.75 m.	9.2	7.5 m
181.	Find the perimeter of the figure. 	9.2	110 m
182.	Find the area of a right triangle with base 5 cm and a height of 2.6 cm.	9.3	6.5 cm^2
183.	Find the area of a square with a side of 7 ft.	9.3	49 ft^2
184.	Find the area of a rectangle with length of 25 in. and a width of 13 in.	9.3	325 in^2
185.	Find the exact area of a circle with a diameter of 26 cm.	9.3	$169\pi \text{ cm}^2$
186.	Find the volume of a rectangular box tha measure 5" x 3.2" x 6.1".	9.3	97.6 in^3