PASSAIC COUNTY COMMUNITY COLLEGE
MA 004 FINAL EXAMINATION
SPRING 2007

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the absolute value.

1) $|-5|$

A) 0 B) 5 C) -5 D) 10

Find the sum.

2) $6 + (-31)$

A) 37 B) 25 C) -25 D) -37

Add. Do not use a number line except as a check.

3) $-\frac{5}{8}+\left(-\frac{3}{5}\right)$

A) $-\frac{49}{40}$ B) $\frac{1}{40}$ C) $-\frac{49}{13}$ D) $-\frac{8}{13}$

Subtract.

4) $-24 - 4$

A) 28 B) -28 C) 20 D) -20

Perform the operation. Express results in lowest terms.

5) $7 - 2\frac{1}{4}$

A) $5\frac{3}{4}$ B) $4\frac{3}{4}$ C) $-5\frac{3}{4}$ D) 4

Find the sum.

6) $-1.1 + 6.7$

A) 5.6 B) -7.8 C) 7.8 D) -5.6

Perform the indicated operation or operations.

7) $\left(-\frac{8}{7}\right)\left(-\frac{9}{4}\right)$

A) $\frac{63}{32}$ B) $\frac{1}{3}$ C) $\frac{2}{7}$ D) $\frac{18}{7}$

Multiply.

8) $-17 \cdot (-10)$

A) 180 B) 170 C) 187 D) -187

Divide.

9) $\left(2\frac{2}{3}\right) \div \left(-\frac{3}{8}\right)$

A) $-\frac{64}{9}$ B) $\frac{5}{11}$ C) -1 D) $\frac{8}{9}$

Simplify.

10) $-36 \div (-6)^2 - 6 \cdot (-2)$

A) 11 B) −11 C) −8 D) 8

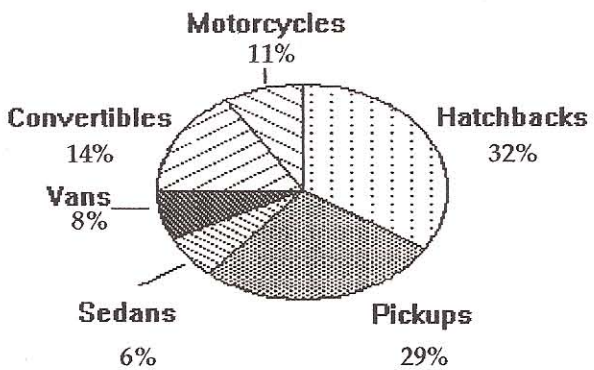
Find the mean of the set of numbers.

11) Cans of soup used by a family in a month: 4, 4, 10, 5, 12, 7
Round your answer to the nearest whole number if necessary.

A) 5 cans B) 6 cans C) 7 cans D) 10 cans

Use the circle graph to solve the problem.

12) A survey of the 3080 vehicles on the campus of State University yielded the following circle graph.



Find the number of sedans. Round your result to the nearest whole number.

A) 2895 B) 6 C) 185 D) 339

Solve the equation.

13) $-7 = f - 13$

A) −20 B) −6 C) 6 D) 20

14) $\frac{1}{4} + x = 12$

A) $\frac{11}{4}$ B) 47 C) $\frac{49}{4}$ D) $\frac{47}{4}$

15) $-6 + 8p = -5$

A) $-\frac{3}{2}$ B) $-\frac{1}{8}$ C) $-\frac{11}{8}$ D) $\frac{1}{8}$

16) $\frac{1}{6}y - 2 = 4$

A) -36 B) 38 C) 36 D) -38

Use an equation to solve the problem.

17) If Gloria received a 4% raise and is now making $22,880 a year, what was her salary before the raise?

A) $23,000 B) $21,880 C) $20,880 D) $22,000

Solve the equation.

18) $10y = 7y + 9 + 2y$

A) -90 B) 9 C) -9 D) 90

19) $3(6n + 4) = -8$

A) $\frac{10}{9}$ B) $\frac{2}{9}$ C) $-\frac{2}{3}$ D) $-\frac{10}{9}$

A formula is given, along with values for all but one of the variables in the formula. Find the value of the variable that is not given.

20) $A = \frac{1}{2}bh; b = 2, h = 6$

A) $A = 8.5$ B) $A = 12$ C) $A = 8$ D) $A = 6$

Change the given quantity to the indicated unit.

21) 304 oz = ____ lb (16 oz= 1 lb)

A) 20 B) 30 C) 19 D) 76

Solve the problem.

22) Andrew has $15 deducted from his paycheck each week for health insurance. This amounts to 10% of his gross income. What is his gross income?

A) $140 B) $200 C) $150 D) $1500

23) 23 ^{0}F = _____ ^{0}C. Use the formula, C = 5/9 (F–32)

A) 20 B) -5 C) 10 D) -8

Simplify the expression. Use positive exponents. Assume variables represent nonzero real numbers.

24) $3^2 \cdot 3^3 \cdot 3^5$

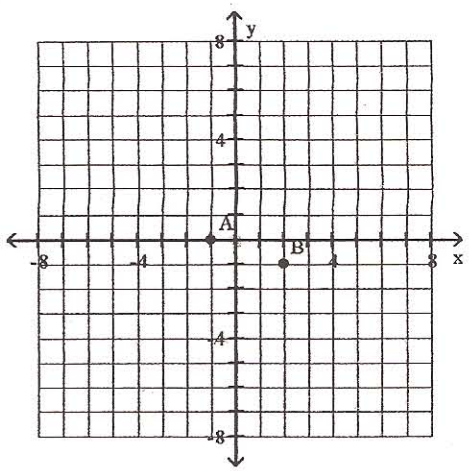
A) 3^{30} B) 3^{10} C) 27^{10} D) 27^{30}

25) 2 m ≈ __ in. (39 in = 1 m)

A) 78.0 in. B) 72.0 in. C) 2.2 in. D) 5.1 in.

Give the ordered pairs for the points labeled on the graph.

26)



A) A(–1, 1); B(2, –1) B) A(1, 0); B(2, –1) C) A(–1, 0); B(2, –1) D) A(–1, 0); B(–2, –1)

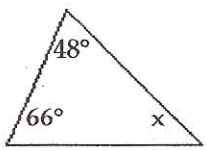
Change the given quantity to the indicated unit.

27) 146 mg = ____ g

A) 14,600 g B) 0.146 g C) 146,000 g D) 1.46 g

Find the measure of the missing angle(s).

28)



A) 48° B) 24 C) 114° D) 66°

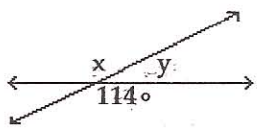
Solve.

29) $9z - 6 - 5z = -46$

A) 20 B) $-\frac{40}{9}$ C) –10 D) – 13

Find the measure of the missing angle(s).

30)



A) x = 24° y = 156° B) x = 124°y = 56° C) x = 66° y = 114° D) x = 114° y = 66°

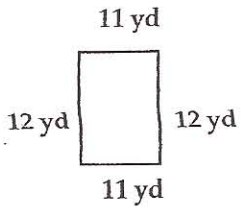
Solve.

31) $\frac{4}{5} = \frac{8}{x}$

A) $6\frac{2}{5}$ B) 40 C) 10 D) $\frac{4}{40}$

Find the perimeter.

32)



A) 46 yd B) 44 yd C) 2 yd D) 23 yd

Translate the sentence to an equation.

33) 3 less than a number is equal to 6.

A) $3 - x = 6$ B) $x - 3 = 6$ C) $x - \frac{1}{3} = 6$ D) $3 - 6 = x$

Write the ratio in simplest form.

34) \$20 to \$76

A) $\frac{5}{19}$ B) $\frac{76}{20}$ C) $\frac{20}{19}$ D) $\frac{4}{4}$

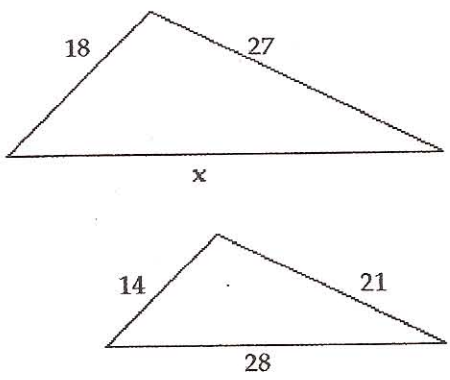
Solve the problem.

35) Jim drove 212 miles in 4 hours. If he can keep the same pace, how long will it take him to drive 1378 miles?

A) 36 hours B) 26 hours C) 848 hours D) 52 hours

The two triangles below are similar. Find the length of any missing side.

36)



A) $x = 45$ B) $x = 36$ C) $x = 28$ D) $x = 34$

Determine between which two consecutive whole numbers each square root lies.

37) $\sqrt{54}$

A) 9 and 10 B) 6 and 7 C) 7 and 8 D) 8 and 9

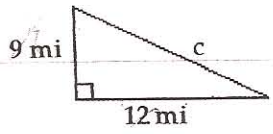
Find area of circle. (Use 3.14 for π) $A = \pi r^2$

38) A circle whose radius is 6 ft

A) 37.68 ft^2 B) 113.04 ft^2 C) 452.16 ft^2 D) 18.84 ft^2

Find the missing length to the nearest tenth.

39)



A) $c = 14.0$ mi B) $c = 12.0$ mi C) $c = 10.5$ mi D) $c = 15.0$ mi

Find the volume of the cylinder. ($V = \pi r^2 h$)

40) A cylindrical drain pipe is 6 in. across the top and about 10 in. high. How many cubic inches of water could it hold?

A) 376.8 $in.^2$ B) 282.6 $in.^3$ C) 1130.4 $in.^3$ D) 565.2 $in.^3$

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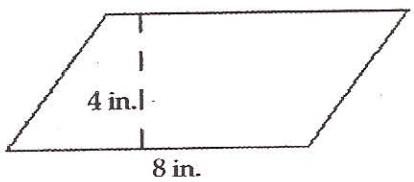
Solve.

1) $6x + 6 = 2x + 42$

A) 11 B) 9 C) 6 D) $\frac{9}{2}$

Find area of figure. (A = B * H)

2)



A) 32 in.^{2} B) 64 in.^{2} C) 12 in.^{2} D) 16 in.^{2}

Solve the problem.

3) To convert temperatures from Celsius to Fahrenheit, multiply the temperature in Celsius by $\frac{9}{5}$ and add 32. If the temperature is 15° C, what is the temperature in Fahrenheit? $F = \frac{9}{5}C + 32$

A) 84.6° F B) 167° F C) 59° F D) –5° F

4) A company's profit amounted to 25% of its sales. If the profits were $6 million, then what was the total of the company's sales?

A) $25 million B) $22 million C) $26 million D) $24 million

5) The ratio of the lengths of strings that play the notes F and G is 9 to 8. If a string 48 centimeters long plays a G, what is the length of the string that plays an F?

A) 57 centimeters B) 56 centimeters C) 54 centimeters D) 42.7 centimeters

Solve the equation.

6) $x + \frac{1}{2} = 6$

A) $x = 4$ B) $x = \frac{11}{2}$ C) $x = \frac{13}{2}$ D) $x = 1$

7) $4(4r - 4) = -5$

A) $-\frac{21}{16}$ B) $-\frac{1}{16}$ C) $\frac{11}{16}$ D) $-\frac{11}{16}$

8) $4 + x = 15$

A) $x = -11$ B) $x = 19$ C) $x = 11$ D) $x = 15$

9) $\frac{1}{7} = \frac{1}{3}x$

A) $x = 21$ B) $x = \frac{1}{21}$ C) $x = \frac{7}{3}$ D) $x = \frac{3}{7}$

10) $-8b + 5 + 6b = -3b + 10$

A) 10 B) 5 C) -10 D) -5

11) $1 = m - 9$

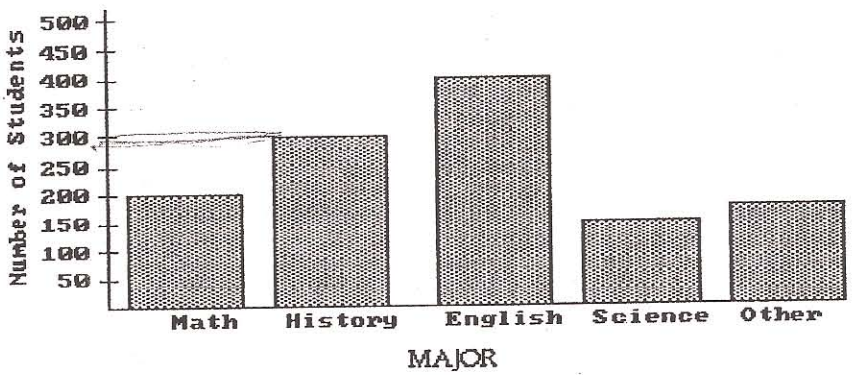
A) $m = 8$ B) $m = 0$ C) $m = -8$ D) $m = 10$

Write the ratio in simplest form.

12) 16 to 20

A) $\frac{4}{5}$ B) $\frac{16}{20}$ C) $\frac{16}{5}$ D) $\frac{4}{20}$

The bar graph below shows the number of students by major in the College of Arts and Sciences. Answer the question.



13) How many students are majoring in History?

A) 250 B) 400 C) 350 D) 300

Multiply.

14) $-14 \cdot 3$

A) 28 B) -42 C) -28 D) -45

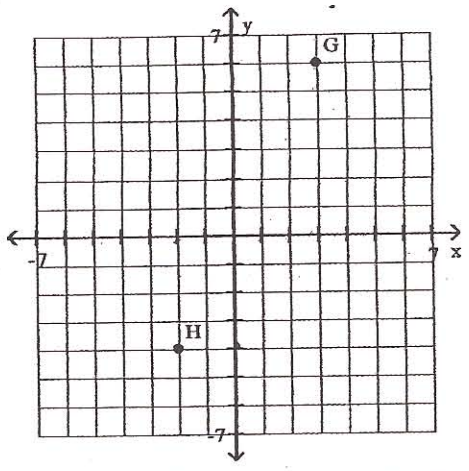
Find the volume.

15) Of a cube measuring 3 ft on each edge $(V = S^3)$

A) $9\ ft^3$ B) $18\ ft^3$ C) $27\ ft^3$ D) $9\ ft^2$

Give the coordinates of the labeled points.

16)



A) G(3, 6); H(–2, –4) B) G(3, 6); H(–4, –2) C) G(6, 22); H(–4, –2) D) G(3, –4); H(6, –4)

Subtract.

17) –4 – 10

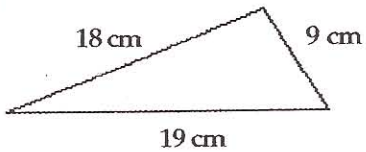
A) 14 B) 6 C) –6 D) –14

18) –0.64 – 9

A) 8.36 B) 9.64 C) –9.64 D) –8.36

Find the perimeter or circumference.

19)



A) 45 cm B) 85.5 cm C) 46 cm D) 37 cm

Find the absolute value.

20) |25|

A) –25 B) 0 C) 25 D) 50

Use an equation to solve the problem.

21) If Jon deposits $550 into his checking account the new balance will be $985. What is the present balance of the account?

A) $435 B) $1535 C) $550 D) $1.79

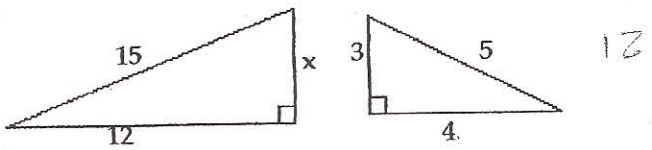
Find the measure of the requested angle.

22) Find the supplement of 50°.

A) 130° B) 40° C) 220° D) 310°

The two triangles below are similar. Find the length of any missing side.

23)



A) $x = 12$ B) $x = 9$ C) $x = 3$ D) $x = 5$

Perform the indicated operation or operations.

24) $\left(\frac{18}{17}\right)\left(\frac{13}{6}\right)$

A) $\frac{3}{17}$ B) $\frac{31}{23}$ C) $\frac{221}{108}$ D) $\frac{39}{17}$

Simplify.

25) $3 + (-48) \div (-6)(-3)$

A) 21 B) −24 C) −21 D) 24

Find the sum.

26) $-3 + 4$

A) 1 B) −7 C) −1 D) 7

27) $5 + (-3)$

A) −2 B) 8 C) −8 D) 2

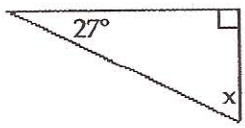
Translate the sentence to an equation.

28) The quotient of r and 5 equals $\frac{3}{7}$.

A) $r = \frac{15}{7}$ B) $\frac{r}{5} = \frac{7}{3}$ C) $\frac{r}{5} = \frac{3}{7}$ D) $\frac{5}{r} = \frac{3}{7}$

Find the measure of the missing angle(s).

29)



A) 27° B) 117° C) 153° D) 63°

Change the given quantity to the indicated unit.

30) 39 L = ____ ml

A) 0.039 ml B) 3.9 ml C) 3900 ml D) 39,000 ml

31) 10 yd = ____ ft (1yd=3ft)

A) 30 B) 360 C) 90 D) 120

Divide.

32) $-4 \div \left(-\frac{1}{6}\right)$

A) $\frac{3}{5}$ B) -4 C) 24 D) $\frac{2}{3}$

Find the mean of the set of numbers.

33) Scores on a math test: 75, 42, 75, 93, 42
Round your answer to the nearest whole number if necessary.

A) 42 B) 65 C) 64 D) 93

Change the given quantity to the indicated unit. Round the answer to the nearest tenth of the unit if necessary.

34) 15 cm ≈ ___ in. given 1 in = 2.54 cm

A) 37.5 in. B) 6 in. C) 375 in. D) 7.5 in.

Add.

35) $-\frac{4}{6} + \frac{1}{3}$

A) 1 B) -1 C) $-\frac{1}{3}$ D) $\frac{7}{6}$

A formula is given, along with values for all but one of the variables in the formula. Find the value of the variable that is not given.

36) $P = 2L + 2W$; $L = 2$, $W = 7$

A) $P = 9$ B) $P = 18$ C) $P = 28$ D) $L = 18$

Find the percent.

37) What percent of 12 is 9?

A) 80% B) 70% C) 75% D) 65%

Find the square root.

38) $\sqrt{49}$

A) 24.5 B) 7 C) 9 D) 14

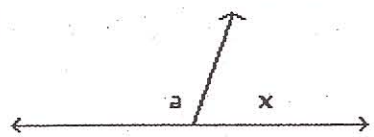
Change the given quantity to the indicated unit.

39) 146 mg = ____ g

A) 1.46 g B) 146,000 g C) 0.146 g D) 14,600 g

Find the measure of the missing angle(s).

40)



$a = 135°$

A) 55° B) 40° C) 45° D) 35°

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1.	B	B
2.	C	A
3.	A	C
4.	B	D
5.	B	C
6.	A	B
7.	D	C
8.	B	C
9.	A	D
10.	A	B
11.	C	D
12.	C	A
13.	C	D
14.	D	B
15.	D	C
16.	C	A
17.	D	D
18.	B	C
19.	D	C
20.	D	C
21.	C	A
22.	C	A
23.	B	B
24.	B	D
25.	A	C
26.	C	A
27.	B	D
28.	D	C
29.	C	D
30.	D	D
31.	C	A
32.	A	C
33.	B	B
34.	A	B
35.	B	C
36.	B	B
37.	C	C
38.	B	B
39.	D	C
40.	B	C