

Wallace Community College
Compass Placement Practice Exam
Pre-Algebra

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

Provide an appropriate response.

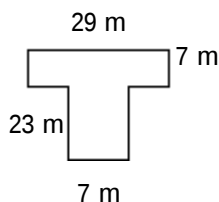
- 1) Round 793,749,621 to the nearest hundred thousand. 1) _____
 A) 700,000,000 B) 800,000,000 C) 793,700,000 D) 793,800,000
- 2) Find the sum of 1608 and 410. 2) _____
 A) 5708 B) 2008 C) 1918 D) 2018
- 3) Subtract 3752 from 9030. 3) _____
 A) 5278 B) 6722 C) 6388 D) 7788
- 4) Multiply: 557×605 4) _____
 A) 336,985 B) 337,086 C) 336,975 D) 336,684
- 5) Compute: $\frac{57,134}{49}$ 5) _____
 A) 1166 B) 1156 C) 1171 R 38 D) 1176 R 46
- 6) Find the quotient: $37 \overline{)31,252}$ 6) _____
 A) 844 R 20 B) 24 C) 844 R 24 D) 844

Simplify.

- 7) $2 \cdot 4 + 4 \cdot 5^2$ 7) _____
 A) 400 B) 108 C) 48 D) 160
- 8) $65 - 2^3 \cdot (12 - 7)$ 8) _____
 A) 285 B) 38 C) 25 D) 62

Solve.

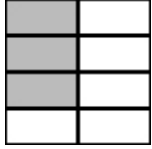
- 9) Vinyl sheet flooring is to be installed in an area shaped as shown. If the vinyl flooring costs \$3 for each square meter, how much will it cost to cover the area? 9) _____



- A) \$720 B) \$420 C) \$657 D) \$1092

Provide an appropriate response.

10) What fraction of the diagram is shaded?



10) _____

A) $\frac{3}{4}$

B) $\frac{3}{8}$

C) $\frac{3}{10}$

D) $\frac{1}{4}$

11) Express $\frac{32}{3}$ as a mixed number.

11) _____

A) $10\frac{1}{3}$

B) $9\frac{1}{3}$

C) $10\frac{2}{3}$

D) $11\frac{2}{3}$

12) Write $\frac{625}{1000}$ in simplest form.

12) _____

A) $\frac{5}{16}$

B) $\frac{25}{40}$

C) $\frac{5}{7}$

D) $\frac{5}{8}$

13) What is the LCD for $\frac{1}{35}$ and $\frac{9}{20}$?

13) _____

A) 700

B) 175

C) 140

D) 100

Add and simplify. Write the answer as a mixed number as needed.

14) $\frac{1}{4} + \frac{7}{16} + \frac{4}{8}$

14) _____

A) $\frac{3}{4}$

B) $1\frac{3}{16}$

C) $2\frac{3}{8}$

D) $3\frac{1}{4}$

15) $5\frac{5}{6} + 5\frac{7}{8}$

15) _____

A) $10\frac{82}{48}$

B) $10\frac{17}{24}$

C) $10\frac{47}{48}$

D) $11\frac{17}{24}$

Subtract and simplify. Write the answer as a mixed number as needed.

16) $13\frac{6}{7} - 3\frac{1}{3}$

16) _____

A) $10\frac{17}{21}$

B) $9\frac{17}{21}$

C) $10\frac{11}{21}$

D) $10\frac{1}{7}$

Multiply.

17) $1\frac{2}{3} \times 4\frac{4}{5}$

17) _____

A) 9

B) 8

C) 14

D) $4\frac{23}{15}$

Divide.

18) $5\frac{5}{8} \div 9$

18) _____

A) $\frac{4}{8}$

B) $\frac{5}{7}$

C) $\frac{6}{8}$

D) $\frac{5}{8}$

Solve. Write the answer as a mixed number as needed.

19) A recipe calls for $1\frac{1}{3}$ cups of water. How much water would be needed for half the recipe?

19) _____

A) $\frac{1}{2}$ cup

B) $1\frac{1}{6}$ cup

C) $\frac{5}{6}$ cups

D) $\frac{2}{3}$ cup

20) Tia pays her babysitter \$8 per hour. The babysitter worked for $2\frac{1}{2}$ hours on Friday and $2\frac{3}{4}$ hours on Saturday. How much will Tia pay her babysitter for the two days of babysitting?

20) _____

A) \$42.00

B) \$64.00

C) \$21.00

D) \$32.00

Provide an appropriate response.

21) Round 87.1256 to the nearest thousandth.

21) _____

A) 87.116

B) 87.136

C) 87.126

Perform the indicated operations.

22) $96.48 + 86.93 + 23.246$

22) _____

A) 206.666

B) 206.756

C) 206.656

D) 207.656

23) 72.5×3.4

23) _____

A) 75.9

B) 246.5

C) 247.6

D) 246.61

24) $(0.4)^2$

24) _____

A) 0.16

B) 0.016

C) 16.

D) 1.6

25) $\frac{47.57}{7.1}$

25) _____

A) 7.7

B) 67

C) 0.67

D) 6.7

Express as a decimal.

26) $\frac{5}{8}$

26) _____

A) 0.125

B) 0.375

C) 0.875

D) 0.625

Write the algebraic expression in words.

27) $n - 7$

27) _____

A) 7 less than n

B) n less than 7

C) the quotient of n and 7

D) 7 decreased by n

28) $\frac{a}{5}$

- A) 5 divided by a
C) a decreased by 5

- B) the quotient of a and 5
D) the product of a and 5

28) _____

Translate the word phrase to an algebraic expression.

29) 4 less than y

A) $4 - y$

B) $y + 4$

C) $y - 4$

D) $\frac{y}{4}$

29) _____

Translate the sentence to an equation. Do not solve.

30) The difference between 9 and y is $2\frac{4}{7}$.

A) $\frac{9}{y} = 2\frac{4}{7}$

B) $y - 9 = 2\frac{4}{7}$

C) $9 - y = 2\frac{4}{7}$

D) $9 = y - 2\frac{4}{7}$

30) _____

Solve.

31) $x + 4.2 = 11$

A) $x = 15.2$

B) $x = 14.7$

C) $x = 6.3$

D) $x = 6.8$

31) _____

32) $2.2a = 55$

A) $a = 25$

B) $a = 121$

C) $a = 21$

D) $a = 52.8$

32) _____

33) $9b = 3\frac{1}{2}$

A) $b = \frac{7}{18}$

B) $b = \frac{1}{2}$

C) $b = 31\frac{1}{2}$

D) $b = \frac{5}{6}$

33) _____

Write the ratio or rate in simplest form.

34) 27 to 18

A) $\frac{3}{2}$

B) $\frac{3}{4}$

C) $\frac{2}{3}$

D) $\frac{4}{3}$

34) _____

35) 81 revolutions in 72 seconds

A) $\frac{9 \text{ revolutions}}{8 \text{ sec}}$

B) $\frac{9 \text{ revolutions}}{72 \text{ sec}}$

C) $\frac{72 \text{ revolutions}}{81 \text{ sec}}$

D) $\frac{81 \text{ revolutions}}{9 \text{ sec}}$

35) _____

Determine the unit rate.

36) 134 meters in 2 seconds

A) 136 m/sec

B) 67 m/sec

C) 268 m/sec

D) 0.67 m/sec

36) _____

Determine whether the proportion is true or false.

37) $\frac{110}{21} = \frac{160}{30}$

A) True

B) False

37) _____

Solve and check.

38) $\frac{30}{x} = \frac{15}{1}$

38) _____

A) $x = 450$

B) $x = 4$

C) $x = 2$

D) $x = \frac{1}{2}$

39) $\frac{8}{x} = \frac{0.2}{1.6}$

39) _____

A) $x = 12\frac{4}{5}$

B) $x = 1\frac{3}{5}$

C) $x = 64$

D) $x = \frac{8}{25}$

40) $\frac{9}{\frac{1}{8}} = \frac{32}{x}$

40) _____

A) $x = \frac{8}{9}$

B) $x = \frac{8}{41}$

C) $x = \frac{4}{9}$

D) $x = \frac{1}{2}$

Solve.

41) Tuition at a certain college recently increased from \$4000 to \$5000. Find the ratio of the increase in price to the original price.

41) _____

A) $\frac{4}{9}$

B) $\frac{1}{5}$

C) $\frac{1}{4}$

D) $\frac{4}{5}$

Rewrite.

42) 80% as a fraction

42) _____

A) $\frac{8}{5}$

B) $\frac{2}{5}$

C) $\frac{4}{5}$

D) 8

43) 395% as a decimal

43) _____

A) 3.96

B) 3.95

C) 0.395

D) 39.5

44) 9% as a decimal

44) _____

A) 9

B) 90.0

C) 0.09

D) 0.9

45) 0.001 as a percent

45) _____

A) 0.01%

B) 0.001%

C) 1%

D) 0.1%

46) $\frac{7}{8}$ as a percent, rounded to the nearest whole percent.

46) _____

A) 89%

B) 10%

C) 88%

D) 9%

Solve.

47) Find 120% of 3460.

47) _____

A) 41,520

B) 415

C) 415,200

D) 4152

48) 5% of what number is 19?

48) _____

A) 380

B) 370

C) 430

D) 3800

- 49) What percent of 60 is 21? 49) _____
 A) 0.35% B) 3% C) 35% D) 300%
- 50) To make car payments, a teenager borrows \$700 from a relative for 7 years at 3% simple interest. Find the amount of simple interest that is due. 50) _____
 A) \$300.00 B) \$33.33 C) \$14.70 D) \$147.00
- 51) An art school began ten straight years of materials fee increases by raising its materials fee from \$600 to \$879. Find the percent increase. 51) _____
 A) 48% B) $45\frac{1}{2}\%$ C) $47\frac{1}{2}\%$ D) $46\frac{1}{2}\%$

Evaluate.

- 52) $2.1 + (-6.4)$ 52) _____
 A) -4.3 B) 4.3 C) -8.5 D) 8.5
- 53) -13×16 53) _____
 A) -208 B) -195 C) -224 D) 195
- 54) -3^2 54) _____
 A) -6 B) 9 C) 27 D) -9
- 55) $\left(-\frac{5}{6}\right)^2$ 55) _____
 A) $\frac{26}{37}$ B) $-\frac{25}{36}$ C) $\frac{25}{36}$ D) $-\frac{26}{37}$
- 56) $-196 \div 7$ 56) _____
 A) -38 B) 28 C) -28 D) $-\frac{1}{28}$
- 57) $-19 + (-10) + (-10) + 21$ 57) _____
 A) 22 B) -18 C) 60 D) 18
- 58) $3 - (-3) \cdot (-2)^3$ 58) _____
 A) -21 B) 48 C) -48 D) 21

Solve.

- 59) The students in Hugh Logan's math class took the Scholastic Aptitude Test. Their math scores are shown below. Find the mean score. Round to the nearest tenth. 59) _____
- | | | | | |
|-----|-----|-----|-----|-----|
| 540 | 622 | 354 | 347 | 622 |
| 341 | 344 | 514 | 470 | 482 |
- A) 473.1 B) 476.0 C) 463.6 D) 454.5

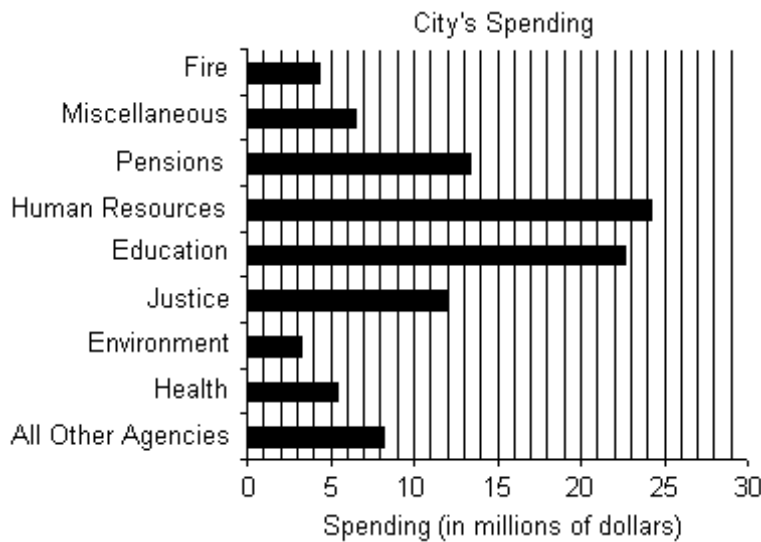
- 60) The manager of a video store recorded the number of video tapes borrowed each day for 12 consecutive days. The results were as follows. What was the median number of video tapes borrowed? 60) _____

283 263 356 379 82 105
82 304 116 320 72 318
A) 209.5 B) 263 C) 283 D) 273

- 61) Here are the prices (in dollars) of 16 electric smoothtop ranges. What are the mode and range of the prices? 61) _____

875 1030 665 575 1475 1130 775 1030
730 775 840 1330 565 1075 1030 690
A) Mode: \$775; range: \$910 B) Mode: \$1030; range: \$925
C) Mode: \$1030; range: \$910 D) Mode: \$775; range: \$915

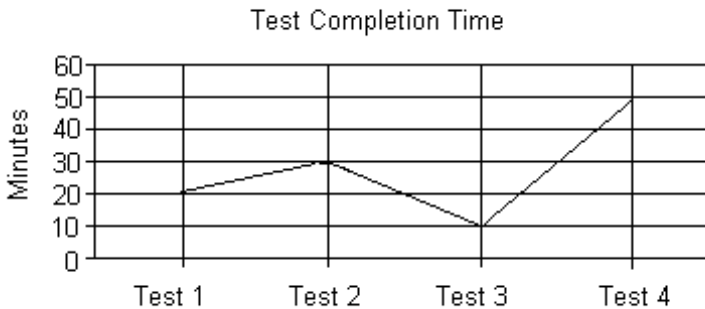
- 62) The bar graph shows the expenditures of one city government in a recent year. 62) _____



How much more is spent on Health than on Fire?

A) \$2.6 million B) \$1.1 million C) \$4.3 million D) \$2.4 million

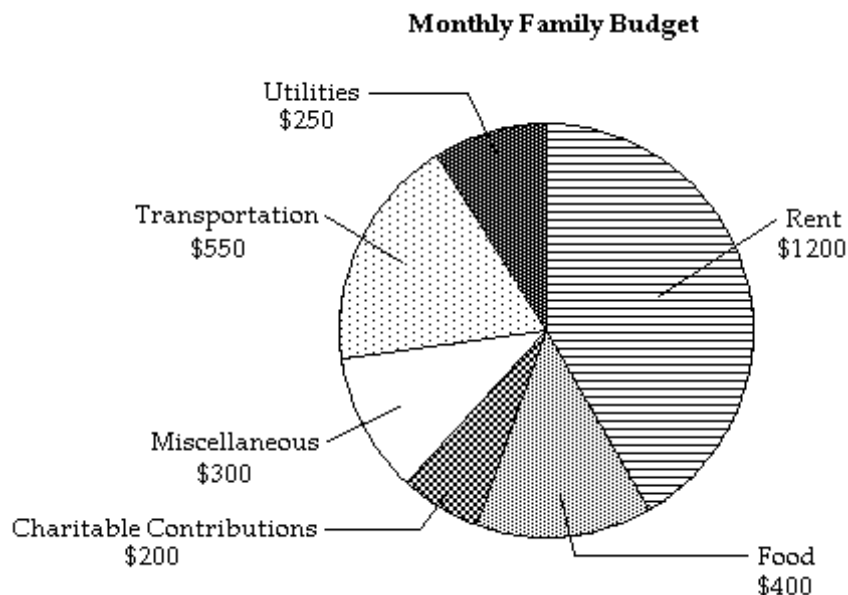
- 63) A psychologist administers four different tests and then graphs the number of minutes it takes for her patient to complete each test. Determine how many more minutes were needed for the patient to complete Test 4 than to complete Test 3. 63) _____



A) 40 minutes B) 20 minutes C) 10 minutes D) 30 minutes

64) The following circle graph displays Chris and Mary Smith's monthly \$2900 family budget.

64) _____



What fraction of the total monthly budget is spent on charity?

A) $\frac{3}{29}$

B) $\frac{29}{2}$

C) $\frac{29}{3}$

D) $\frac{2}{29}$

Solve the problem.

65) Add: 2 ft 11 in. and 4 ft 10 in.

A) 6 ft 9 in.

B) 7 ft 9 in.

C) 6 ft 10 in.

D) 7 ft 11 in.

65) _____

66) Subtract 2 hr 2 min from 8 hr.

A) 6 hr 58 min

B) 5 hr 58 min

C) 5 hr 2 min

D) 6 hr 2 min

66) _____

Change the given quantity to the indicated unit.

67) 500 cm = _____ m

A) 50 m

B) 50,000 m

C) 5 m

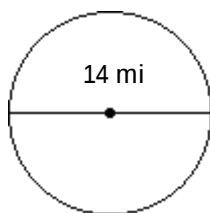
D) 5000 m

67) _____

Find the perimeter or circumference. Use $\pi \approx 3.14$ when needed.

68)

68) _____



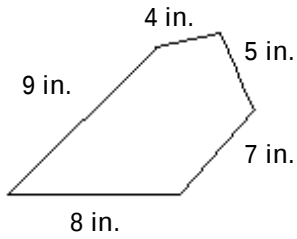
A) 21.98 mi

B) 153.86 mi

C) 43.96 mi

D) 87.92 mi

69)



A) 33 in.

B) 25 in.

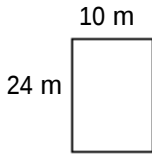
C) 24 in.

D) 26 in.

69) _____

Find the area. Use $\pi \approx 3.14$ when needed.

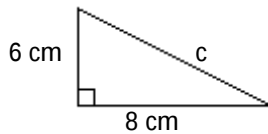
70)

A) 480 m^2 B) 34 m^2 C) 240 m^2 D) 68 m^2

70) _____

Find the unknown.

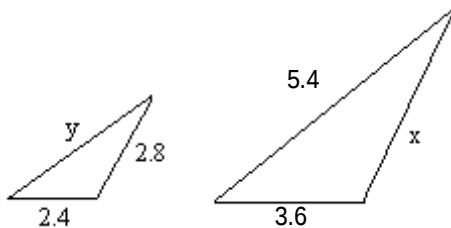
71)

A) $c = 5.3 \text{ cm}$ B) $c = 9.0 \text{ cm}$ C) $c = 7.0 \text{ cm}$ D) $c = 10.0 \text{ cm}$

71) _____

The two triangles below are similar. Find x and y .

72)

A) $x = 4.2$; $y = 3.6$ B) $x = 4.8$; $y = 3.9$ C) $x = 4.2$; $y = 3.9$ D) $x = 1.87$; $y = 3.6$

72) _____

Solve. Use $\pi \approx 3.14$ when necessary.

73) A water sprinkler sends water out in a circular pattern. The radius of watering is 6 feet. Determine how large an area is watered.

A) 28.26 ft^2 B) 113.04 ft^2 C) 18.84 ft^2 D) 9.42 ft^2

73) _____