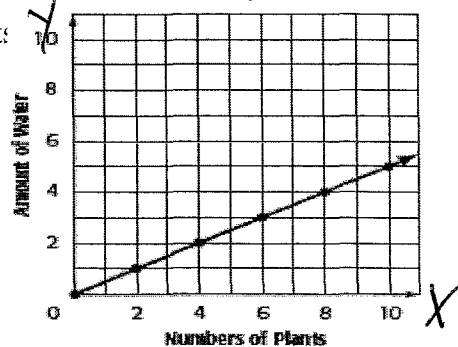


NAME Key

7AC FINAL EXAM REVIEW MC#1

Same as
→ ACL

- 1) The graph shown represents the amount of water and number of plants:
What is the constant of proportionality?



$$K = \frac{Y}{X} \quad \frac{1}{2}, \frac{2}{4}, \frac{3}{6}$$

- a) $\frac{1}{2}$
b) 2
c) 5
d) 12

- 2) What is the constant of proportionality?

Speed (x)	25	30	35	40
Distance (y)	100	120	140	160

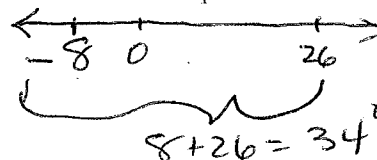
$$K = \frac{Y}{X}$$

$$\frac{100}{25} = \frac{4}{1} \quad \frac{140}{35} = \frac{4}{1}$$

$$\frac{120}{30} = \frac{4}{1} \quad \frac{160}{40} = \frac{4}{1}$$

- a) 75 b) 125 c) 4 d) 150

- 3) Yesterday, the temperature rose from -8°F to 26°F . What was the total increase in temperature during the day?



- a) 18° b) 34° c) 26° d) 8°

- 4) Three more than twice a number is equal to 15. What is the number?

- a) 6 b) 7 c) 9 d) 12

$$\begin{array}{r} 2x + 3 = 15 \\ -3 \quad -3 \\ \hline 2x = 12 \quad x = 6 \\ \quad \quad \quad 2 \quad \quad 2 \end{array}$$

- 5) Mike is a wrestler and went on a diet. Mike now weighs $145\frac{3}{4}$ pounds. If he lost $10\frac{9}{10}$ pounds, how much did he weigh before he went on a diet?

- a) $134\frac{17}{20}$ b) $156\frac{13}{20}$ c) 135 d) $155\frac{12}{14}$

$$\begin{array}{r} 145 \frac{3}{4} \frac{15}{20} \\ + 10 \frac{9}{10} \frac{18}{20} \\ \hline 155 \frac{33}{20} \end{array} \quad \text{b) } 156 \frac{13}{20}$$

- 6) An aquarium is on sale for \$59.50. If this price represents a 15% discount from the original price, what is the original price to the nearest cent?

- a) \$50.25 b) \$60 c) \$65.75 d) \$70

$$\begin{array}{r} 59.50 = \frac{85}{100} x \\ 85x = \frac{5950}{85} \quad x = 70 \end{array}$$

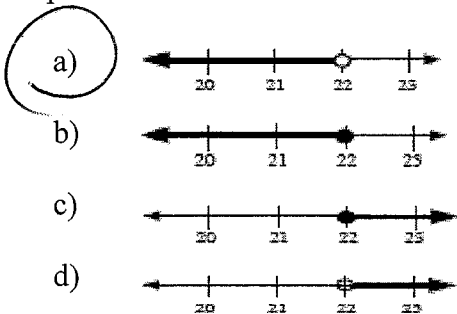
- 7) If the probability that it will snow on Friday is $\frac{4}{7}$, what is the probability that it will not snow on Friday?

- a) 0 b) 1 c) $\frac{4}{7}$ d) $\frac{3}{7}$

$$\frac{7}{7} - \frac{4}{7} = \frac{3}{7}$$

7AC FINAL EXAM REVIEW MC#1

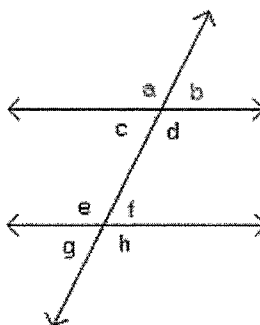
8) Graph the set $x < 22$ on a number line.



open circle $<$ or $>$
 closed circle \leq or \geq

9) What type of angles are $\angle a$ and $\angle b$?

- a) vertical angles
- b) adjacent angles
- c) right angles
- d) straight angles



10) Which of the following numbers is equivalent to a repeating decimal?

a) $\frac{9}{15} = .6$

b) $\frac{17}{55} = .3\overline{09}$

c) $\frac{30}{50} = .6$

d) $\frac{20}{64} = .3125$

11) Cynthia opened a savings account with \$1,250.00. The account pays 4.5% interest annually. If no transactions are made, how much will Cynthia have in her savings account in 3 years?

a) \$168.75

b) \$1081.25

c) \$1264.06

d) \$1418.75

$I = prt$
 $I = 1250(.045)(3)$
 $I = 168.75$
 Total $\rightarrow 1250 + 168.75$

12) How many degrees is the complement of a 20° angle? *Comp. \angle 's = 90*

a) 160°

b) 20°

c) 80°

d) 70°

$90 - 20 = 70$

13) Simplify the following expression: $(1x + 4y - 5x) - 2y$ *$-4x + 2y$*

a) $-5x + 2y$

b) $-5x - 2y$

c) $-4x + 2y$

d) $-4x - 2y$

7AC FINAL EXAM REVIEW MC#1

14) Jason can travel $24\frac{3}{4}$ miles in $\frac{1}{2}$ hour. What is his average speed in miles per hour?

- a) 45 mph **b) 49.5 mph** c) 55 mph d) 60 mph

$$\frac{24\frac{3}{4}}{\frac{1}{2}}$$

15) Jack's closet contains 2 hats, 1 jacket and 5 sweaters. Jack selects one item from his closet without looking. What is the probability that Jack selects a hat?

- a) $\frac{1}{4}$ b) $\frac{1}{3}$ c) $\frac{5}{8}$ **d) $\frac{1}{8}$**

16) The following are prices of earrings: \$6, \$12, \$15, \$11, \$12, \$10, \$29, \$13. Which measure of central tendency would most accurately display this data?

- a) mean **b) median** c) mode d) range

outlier
Choose median if outlier

17) If there are 360 students in school, predict how many would bike to school.

- a) 10 b) 40
c) 90 d) 180

$$\frac{10}{40} = \frac{x}{360}$$

$$40x = 3600$$

$$\frac{40x}{40} = \frac{3600}{40}$$

$$x = 90$$

School Transportation	
Method	Students
Walk	10
Ride Bike	10
Ride Bus	15
Get Ride	5

40

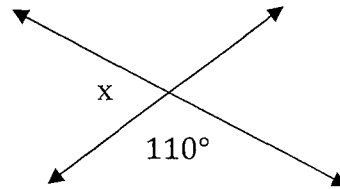
18) The figure shows two intersecting lines.

What is the value of x?

- a) 110°
b) 50°
c) 70°
d) 30°

$$\begin{array}{r} 180 \\ - 110 \\ \hline 70 \end{array}$$

linear pair = 180°



19) What is the solution of $3x - 6 > 24$?

- a) $x > 2$
c) $x > 6$

$$\begin{array}{r} +6 \quad +6 \\ \hline 3x > 30 \\ \frac{3x}{3} > \frac{30}{3} \\ x > 10 \end{array}$$

20) Solve for x: $2(x - 6) = 10$

- a) $x = 8$ **b) $x = 11$**
c) $x = 26$ d) $x = 32$

$$\begin{array}{r} 2x - 12 = 10 \\ +12 \quad +12 \\ \hline 2x = 22 \\ \frac{2x}{2} = \frac{22}{2} \\ x = 11 \end{array}$$

7AC FINAL EXAM REVIEW MC#1

21) Which of the following represents two dependent events?

- a) rolling two number cubes
- b) drawing a marble from a bag, not replacing it, then drawing another marble
- c) drawing a card from a deck, replacing it, and drawing another card
- d) tossing two coins

22) If the area of a circle is $16\pi \text{ ft}^2$, what is the radius?

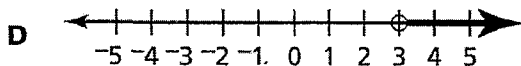
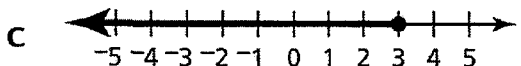
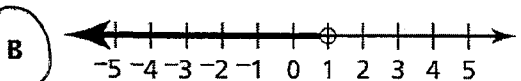
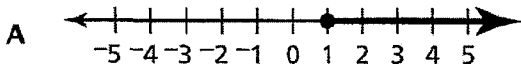
- a) 32 ft
- b) 16 ft
- c) 8 ft
- d) 4 ft

$$A = \pi r^2$$

$$\frac{16\pi}{\pi} = \frac{\pi r^2}{\pi} \quad \sqrt{16} = \sqrt{r^2}$$

$$4 = r$$

23) Which number line shows the inequality $4x + 4 < 8$?

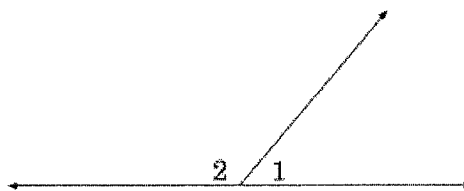


$$4x + 4 < 8$$

$$\begin{array}{r} -4 \quad -4 \\ \hline 4x < 4 \\ \frac{4x}{4} < \frac{4}{4} \\ x < 1 \end{array}$$

24) Which term describes $\angle 1$ and $\angle 2$?

- a. supplementary
- b. complementary
- c. vertical
- d. congruent



25) Solve for d : $\frac{30}{42} = \frac{55}{d}$

a) 77

b) 67

c) 39.29

d) 23

$$\frac{30d}{30} = \frac{2310}{30} \quad d = 77$$

26) Two supplementary angles are in the ratio 2 : 3. What is the measure of the larger angle?

a) 36°

b) 72°

c) 108°

d) 180°

$$2x + 3x = 180$$

$$5x = 180$$

$$\frac{5x}{5} = \frac{180}{5}$$

$$x = 36$$

$$2x = 72$$

$$3x = 108$$

7AC FINAL EXAM REVIEW MC#1

27) Randy spins the arrow on a spinner with 5 equal sections labeled A,B,C,D and E. Then he rolls a 6 sided number cube with the sides 1 through 6. What is the probability that the arrow will stop on the letter A and the number cube will show the number 4?

$$\frac{1}{5} \cdot \frac{1}{6} = \frac{1}{30}$$

- a) $\frac{1}{30}$ b) $\frac{1}{6}$ c) $\frac{1}{11}$ d) $\frac{1}{5}$

28) Which of the following expressions *cannot* be factored?

- a) $12x - 10$
 $2(6x - 5)$ b) $6x - 4$
 $2(3x - 2)$ c) $16x - 3$ d) $3x + 18$
 $3(x + 6)$

29) What is the circumference in terms of π , of a circle with a radius of 7 inches?

- a) 7π in b) 14π in c) 49π in d.) 3.5π in

$$\begin{aligned} C &= 2\pi r \\ C &= 2\pi(7) \\ C &= 14\pi \text{ in} \end{aligned}$$

30) A certain car comes in three body styles with a choice of two engines, a choice of two transmissions, and a choice of six colors. What is the minimum number of cars a dealer must stock to have one car of every possible outcome?

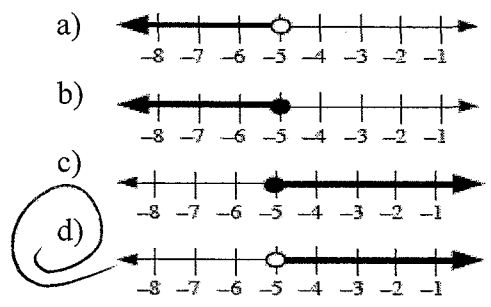
- a) 13 b) 36 c) 42 d) 72

$$3 \cdot 2 \cdot 2 \cdot 6 = 72 \text{ choices}$$

Counting principle

31) Which graph represents the solution set for $\frac{2x}{2} > \frac{-10}{2}$

$$x > -5$$



32) A map has a scale of 5 in = 10 miles. the distance between cities is 15 in. How many miles apart are they?

- a) 20 miles
b) 25 miles
c) 30 miles
d) 45 miles

$$\begin{aligned} \frac{\text{in}}{\text{mi}} \frac{5}{10} &= \frac{15}{x} \frac{\text{in}}{\text{mi}} \\ \frac{5x}{5} &= \frac{150}{5} \\ x &= 30 \end{aligned}$$

7AC FINAL EXAM REVIEW MC#1

33) A pair of \$59.99 running shoes is on sale for 25% off. What is the sale price of the shoes?

- a) \$38.99 b) \$41.99
 c) \$44.99 d) \$47.99

$$59.99(.25)$$

$$59.99 - 15.00 = 44.99$$

34) Solve for x: $-2x + 3 - 6x = -29$

- a) -4 b) 4 c) 3 d) -40

$$-8x + 3 = -29$$

$$\underline{-3 \quad -3}$$

$$-8x = -32$$

$$\underline{-8 \quad 8}$$

$$x = 4$$

35) The table below shows the number of each type of donuts it makes each day. If a donut is selected at random, what is the probability of choosing a cream fudge donut? Express as a fraction in simplest form.

- a) $\frac{36}{45}$ b) $\frac{1}{3}$
 c) $\frac{1}{5}$ d) $\frac{12}{45}$

TYPE	NUMBER OF DONUTS
CHOCOLATE	24
COCONUT	12
CREAM FUDGE	9

$$\frac{9}{45} = \frac{1}{5}$$

45

36) What is the solution to the equation:

- a) -24 b) -20 c) -4 d) 24

$$\frac{-8 + \frac{5}{6}x = -28}{+8 \quad +8}$$

$$\left(\frac{6}{5}\right) \frac{5}{6} x = -20 \left(\frac{6}{5}\right)$$

$$x = -24$$

37) Simplify $(m + 6) + 5n - 4m - 2n$.

- a) $-3m + 3n$ b) $-3m + 3n + 6$
 c) $-3m + 9n + 6$ d) $-3m + n + 9$

$$-3m + 3n + 6$$

38) Which expression is equivalent to $15x - 5$?

- a) $15(x - 1)$ b) $5(3x - 1)$
 c) $5(3x - 5)$ d) $15(x - 5)$

$$15x - 5$$

$$5(3x - 1)$$

7AC FINAL EXAM REVIEW MC#1

39) What is the unit price if 6 bananas cost \$2.60?

- a) \$0.43 per banana
- b) \$8.60 per banana
- c) \$0.06 per banana
- d) \$4.30 per banana

$$\frac{2.60}{6} = .43$$

40) Sakiya surveyed students in her school about their favorite sports. On Monday, she randomly surveyed 85 students in the cafeteria. On Tuesday, she surveyed 15 of her teammates on the school soccer team. Which statement best describes the samples Sakiya used?

- A Neither sample represents the school population.
- B Both samples represent the school population.
- C The data gathered on Monday represent the school population, but the data gathered on Tuesday do not.
- D The data gathered on Tuesday represent the school population, but the data gathered on Monday do not.

41) A sweater is on sale for \$28. The regular price for this sweater is \$40. What is the percent of discount?

- a) 30%
- b) 43%
- c) 35%
- d) 70%

$$\begin{array}{r} 40 \\ -28 \\ \hline 12 \end{array} \quad \frac{12}{40} = \frac{x}{100}$$

$$\frac{40x}{40} = \frac{1200}{40}$$

42) Cole can read 6 pages in 14 minutes. At this rate, how long will it take him to read 21 pages?

- a) 9
- b) 27
- c) 42
- d) 49

$$\frac{6 \text{ pages}}{14 \text{ min}} = \frac{21 \text{ pages}}{x \text{ min}}$$

$$\frac{6x}{6} = \frac{294}{6}$$

43) The equation $9 + (2 + 8) = (9 + 2) + 8$ is an example of which property?

- a) associative *only the () move*
- b) additive inverse
- c) commutative
- d) distributive

44) What fraction is between $\frac{2}{5}$ and $\frac{5}{8}$?

- a) $\frac{1}{3}$
- b) $\frac{1}{2} = \frac{20}{40}$
- c) $\frac{5}{6} = \frac{25}{6}$
- d) $\frac{2}{9}$

$$\frac{16}{40} \quad \frac{25}{40}$$

45) Which number has the greater absolute value -12 or 9?

- a) -12
- b) 9
- c) both are the same
- d) neither

$$|-12| = 12$$

$$|9| = 9$$

7AC FINAL EXAM REVIEW MC#1

46) What is the area of this figure?

tri +

- a) 30 ft^2
- b) 32 ft^2
- c) 36 ft^2
- d) 66 ft^2

Rect 1 Rect 2

$A = lw$ $A = lw$

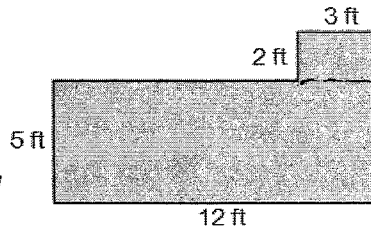
$A = 5(12)$ $A = 2(3)$

$A = 60$ $A = 6$

Total

$60 + 6 =$

$66 \text{ ft}^2 = A$



47) On a map, the scale is 1 inch = 50 miles. What is the actual distance between two cities if the map distance is 5 inches?

- a) 10 miles
- b) 25 miles
- c) 250 miles
- d) 300 miles

$\frac{1 \text{ in}}{50 \text{ mi}} = \frac{5}{x}$

$x = 250 \text{ miles}$

48) What is the GCF of $15m^2n$ and $5m^3$?

- a) 5
- b) $5m$
- c) $5m^2$
- d) $5m^3$

$5 \overline{) 15m^2n, 5m^3}$

$m^2 \overline{) 3m^2n, m^3}$

$3n, m$

49) The forecast stated that it was going to -7° F this morning. By the afternoon, the sun appeared and the temperature rose 5° . What is the current temperature?

- a) 12°
- b) 2°
- c) -12°
- d) -2°

$-7 + 5 = -2^\circ$

50) Alicia bought theater tickets for herself and four friends. If she paid \$19.00 per ticket, and she had \$12.50 left, how much money did she have before she bought the tickets?

- a) \$76
- b) \$82.50
- c) \$95
- d) \$107.50

$5(19) + 12.50 = x$

$95 + 12.50 = 107.50$