

## 7th Grade Review for Final Exam

1) If there are 12 inches in one foot, write an equation using 'i' for inches and 'f' for feet that allows you to convert inches to feet and feet to inches.

Simplify the following:

$$2) 4x + 4x =$$

$$3) 4x \cdot 4x =$$

$$4) 5x^2 - 7x + 4 - 2x^2 + 4x - 8 =$$

Use the distributive property to simplify:

$$5) -3(5x - 7) =$$

Factor the following:

$$6) 8x + 12 =$$

7) Use the following formula to determine the temperature in degrees Fahrenheit if it is 15 degrees Celsius:

$$F = \frac{9}{5} \cdot C + 32$$

Simplify the following:

$$8) -12 + -5 =$$

$$9) -6 + 8 =$$

$$10) -5 - (-3) =$$

$$11) 7 + (-6) - 3 - (-8) + (-1) =$$

Simplify the following:

$$12) -5 \cdot -7 =$$

$$13) -4 \cdot 11 =$$

$$14) -14 \div -7 =$$

$$15) 10 \div -100 =$$

Simplify the following:

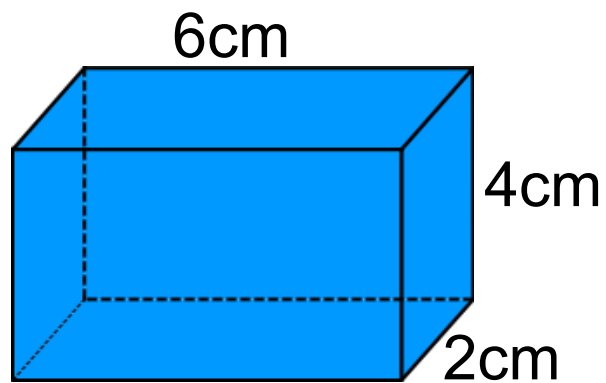
$$16) -(5x - 7) =$$

$$17) |-15| =$$

$$18) |12| =$$

$$19) |2 + -7| - 4 =$$

20) Find the volume and surface area of the following:





21) Solve for 'x':

$$-3x - 11 > 16$$

22 and 23) Solve the following for 'x':

$$\frac{5x - 6}{4} = 11$$

$$-3x - 8 = -5x + 7$$

24) What is the probability of flipping heads on a fair coin three straight times?

25) If I have four shirts, three pairs of pants, and two pairs of socks, how many different outfits can I wear?

26) Calculate the range, the mode, the median, the mean and the mean absolute deviation of the dataset:

5, 7, 7, 8, 9, 12

27) If I can buy 5 lemons for \$2.05, what is the unit rate for lemons

28) What is 15% of 32?

29) What percentage of 24 is 20?

30) 20 is 40% of what number?

31) If a \$30 sweater is marked down by 20%, what is its new price?



32) How can you tell if the following show "proportional" relationships:

a) graph

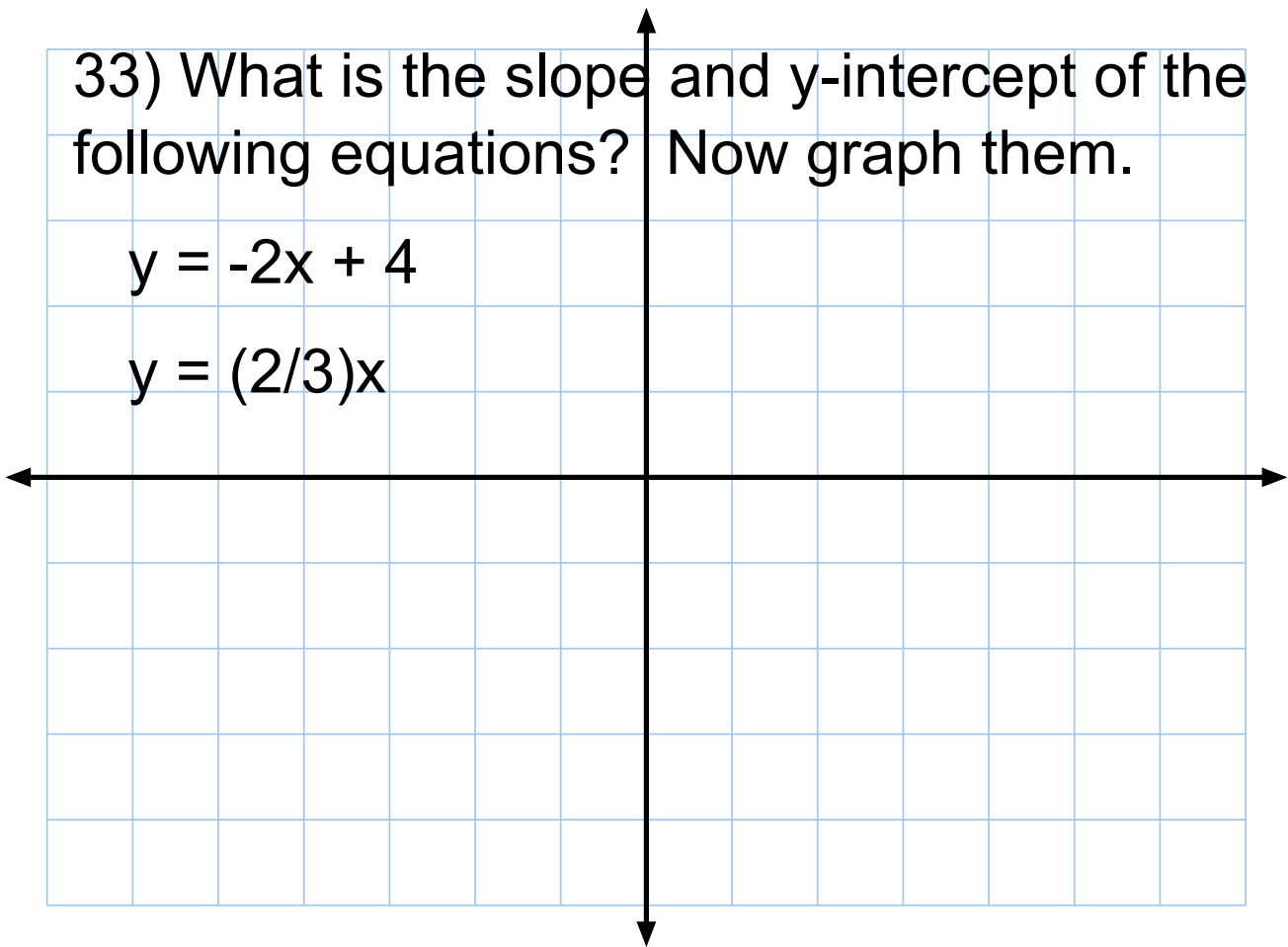
b) table

c) formula

33) What is the slope and y-intercept of the following equations? Now graph them.

$$y = -2x + 4$$

$$y = (2/3)x$$



34) Write an equation for the relationship given by the table. Is it proportional?

x	1	2	3	4	5
y	-2	1	4	7	10

35) Simplify:

$$\frac{24 - (10 - 8)^2}{-8 + 10}$$

36) If 'x' = -2, then simplify the following:

$$4x^3 + 2x - 4 =$$

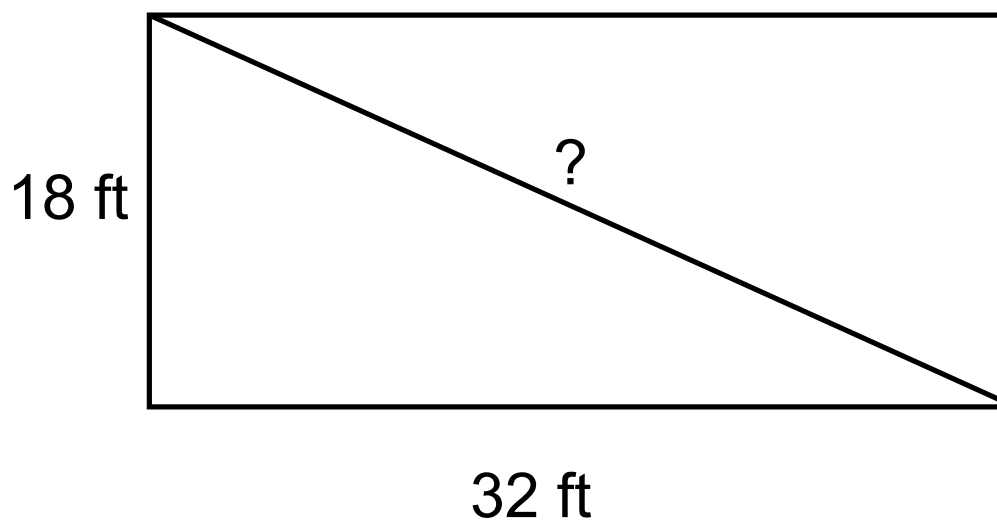
37) Player A wins a round if a six-sided die comes up with a number greater than or equal to 3. Player B wins on all other rolls.

a) Is the game fair?

b) If not, how many points should each player get for winning a round?

38) A shade of pink paint is made by mixing red and white in a ratio of 1:4. If I need 15 gallons of paint, how much red paint and how much white paint will I need?

39) A movie screen measures 32 feet wide and 18 feet tall. How far is the diagonal that runs from the top left to the bottom right of the screen?





Answer Key:

1)  $12f = i$

2)  $8x$

3)  $16x^2$

4)  $3x^2 - 3x - 4$

5)  $-15x + 21$

6)  $4(2x + 3)$

7) 59

8) -17

9) 2

10) -2

11) 5

12) 35

13) -44

14) 2

15) -0.1

16)  $-5x + 7$

17) 15

18) 12

19) 1

20)  $48\text{cm}^3 / 88\text{cm}^2$

21)  $x < -9$

22)  $x = 10$

23)  $x = 7.5$

24)  $1/8$

25) 24

26)  $7/7/7.5/8/1.7$

27) \$0.41

28) 4.8

29) 83.3%

30) 50

Answer Key (continued):

31) \$24

32a) line passes through the origin

b) "double-double" rule

c) y-intercept is 0 (example:  $y=2x$ )

33) -2 and (0,4) /  $\frac{2}{3}$  and (0,0)

34)  $y = 3x - 5$

35) 10

36) -40

37) Not fair. Player A gets 1 point, B gets 2 points

38) 3 gallons of red and 12 gallons of white

39) Square root of 1348 or approximately 36.7 feet