

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:

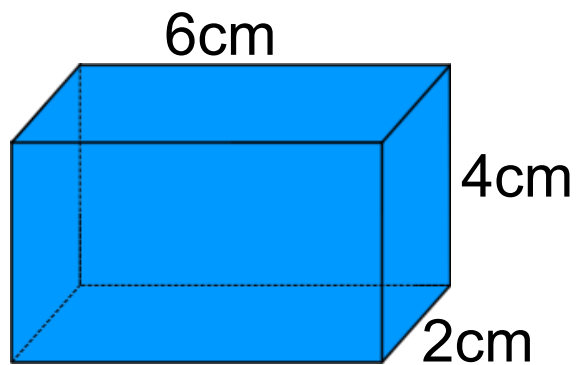
$$16) -(5x - 7) =$$

$$17) |-15| =$$

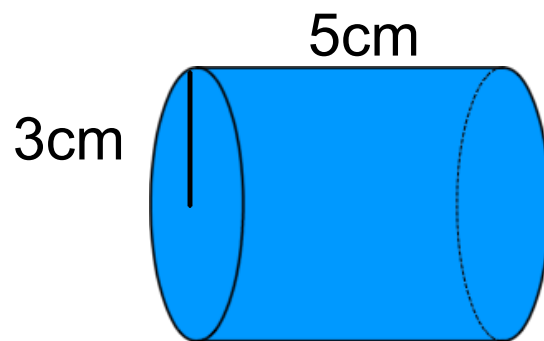
$$18) |12| =$$

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

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



21) Find the volume of the following cylinder:



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 oranges for \$2.00, what is the unit rate for oranges?

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:

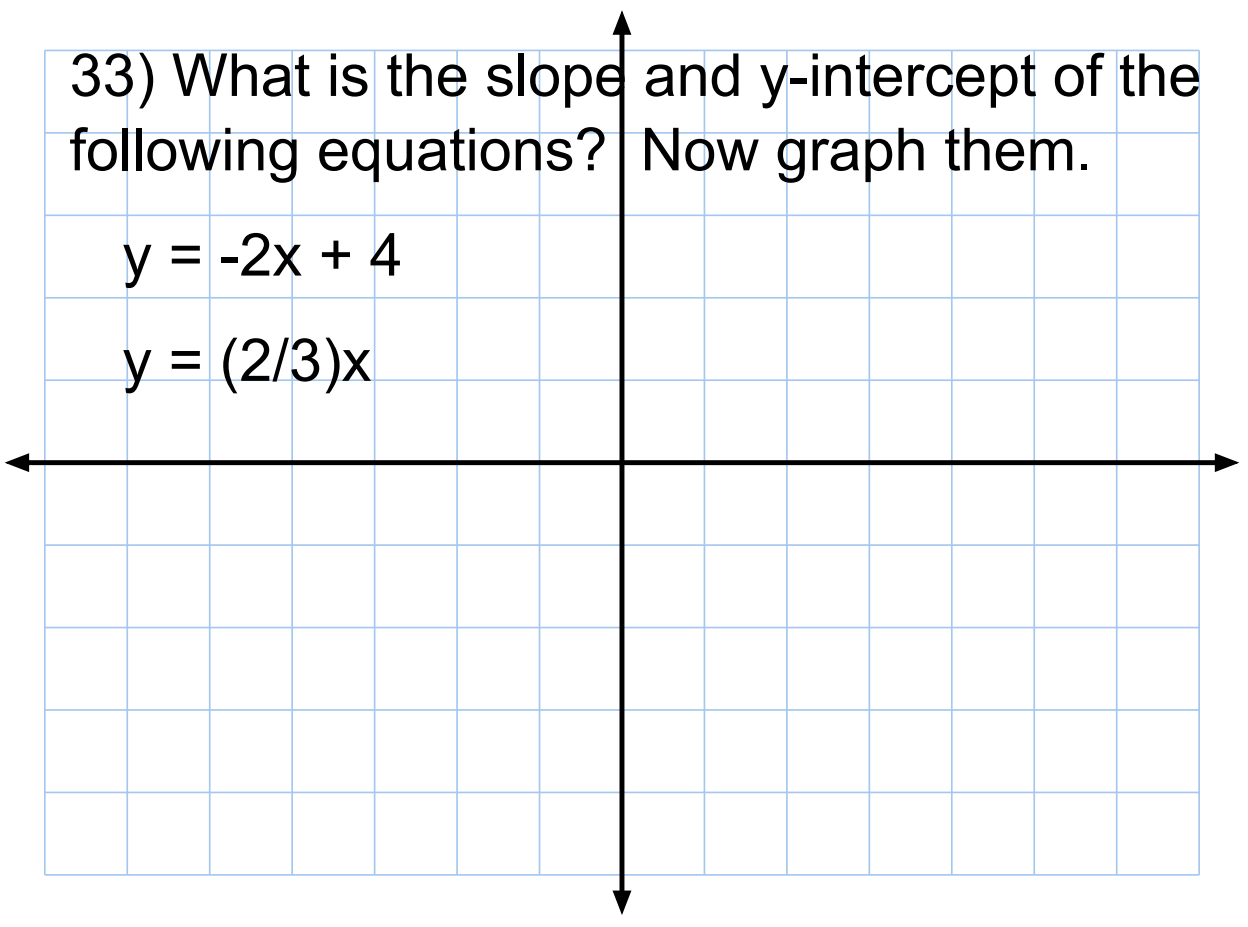
a) graph

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) What is the slope and y-intercept of the following equations:

$$y = 3x$$

$$y = -x - 5$$

Answer Key:

- | | | |
|--------------------|-------------------------------------|--------------------------|
| 1) $12f = i$ | 11) 5 | 21) $45\pi \text{ cm}^3$ |
| 2) $8x$ | 12) 35 | 22) $x = 10$ |
| 3) $16x^2$ | 13) -44 | 23) $x = 7.5$ |
| 4) $3x^2 - 3x - 4$ | 14) 2 | 24) $1/8$ |
| 5) $-15x + 21$ | 15) -0.1 | 25) 24 |
| 6) $4(2x + 3)$ | 16) $-5x + 7$ | 26) $7/7/7.5/8/1.7$ |
| 7) 59 | 17) 15 | 27) \$0.40 |
| 8) -17 | 18) 12 | 28) 4.8 |
| 9) 2 | 19) 1 | 29) 83.3% |
| 10) -2 | 20) $48\text{cm}^3 / 88\text{cm}^2$ | 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) 3 and (0, 0) / -1 and (0, -5)