Name_____   Block_____

STUDY GUIDE

SQUARE ROOTS & PYTHAGOREAN THEOREM

1. What is a perfect square? _____.

2. What is the opposite of squaring? _____.

3. $-\sqrt{\dfrac{144}{400}}$ 4. $\sqrt{\dfrac{25}{49}}$ 5. $-\sqrt{25}$ 6. $\sqrt{90}$ 7. $-\sqrt{81}$ 8. $x^2 = 64$ 9. $x^2 = 343$

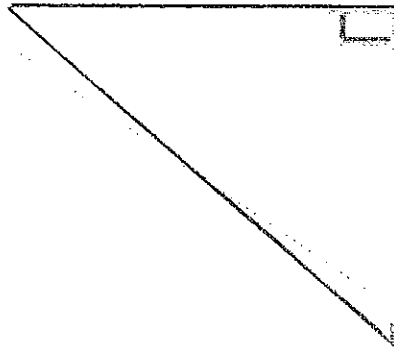10. $y^2 = 61$ 11. $x^2 = 36$ 12. $\sqrt{16}$ 13. $x^2 = 100$ 14. $-\sqrt{\dfrac{121}{169}}$ 15. $\sqrt{625}$
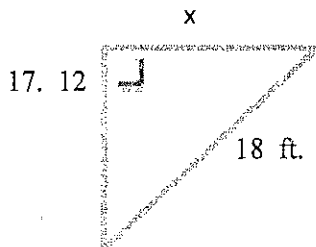
Label the triangle with the words from the box.

Hypotenuse	Right angle	a	c
Leg Leg	$a^2 + b^2 = c^2$	b	

Pythagorean Theorem _____.

*Find the missing side length.

17. 12

x

18 ft.

18.

23 cm

x

7 cm
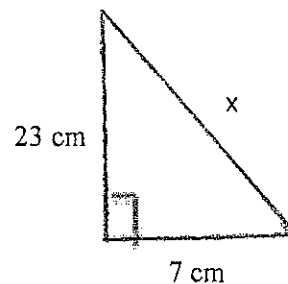
19. A triangle has lengths of 3, 4 ,5. Is it a right triangle? PROVE!

20. A triangle has lengths of 7, 11, 15. Is it a right triangle? PROVE!

21. Given the three side lengths of a triangle, how do you determine if it is a right triangle or not a right triangle?

_____

_____.

22. Draw a diagram of North, South, East, and West.

23. The Hypotenuse is always opposite the _____.

24. The size of a t.v. is always measured by the _____.

25. A wall and the ground always intersects at a _____ angle.

26. If your school is 10 miles due west of your house and the movie theater is 6 miles due south of your house, what is the distance between the school and the movie theater? (Draw a picture to help)

27. If you have an entertainment center with a section for the television with a length of 25 inches and 30inches tall, what is the largest t.v. you can buy? (Draw a picture to help)

28. When plotting a point in a coordinate plane, which axis is the x axis? _____.
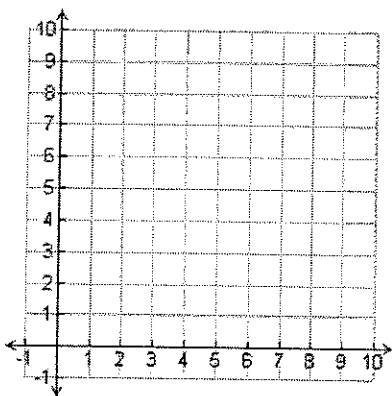
29. An ordered pair is (____, ____)

30. When finding the distance between two points that are diagonal in a coordinate plane, you need to draw a _____ and use the Pythagorean Theorem to solve.

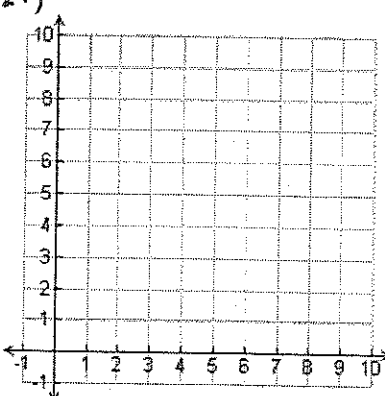31. Find the distance between the following points (3,3) and (4,7).

32. Find the distance between the following points (0, 2) and (6,6).

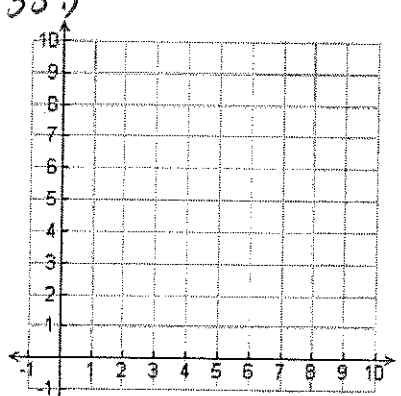33. Find the distance between the following points (4, 3) and (7, 5).

31.)

32.)

33.)

ANSWERS

1. A number times itself.

2. Square root

3. $-\dfrac{3}{5}$

4. $\dfrac{5}{7}$

5. -5

6. 9.5

7. -9

8. 8, - 8

9. 18.5, -18.5

10. 7.8, - 7.8

11. 6, - 6

12. 4

13. 10, - 10

14. $-\dfrac{11}{13}$

15. 25

16. Check with Teacher

17. 13.4

18. 24

19. $25 = 25$ Yes

20. $170 = 225$ No

21. Plug the numbers into Pythagorean Theorem. Square each number and add the two numbers on the left together. If the numbers on both sides of the equation are the same then it is a right triangle.

22.
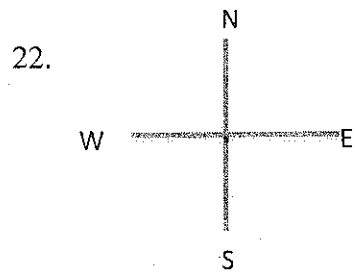
23. The right angle

24. Diagonal

25. 90 degree angle

26. 11.7 miles

27. 39 inch t.v.

28. left to right

29. (x, y)

30. Right Triangle

31. 4.1

32. 7.2

33. 3.6