**PYTHAGOREAN THEOREM REVIEW**

‘RIGHT – ANGLE TRIANGLE’ - A right triangle is a triangle with one 900 angle. For example:

|  |  |
| --- | --- |
|  |  |

|  |  |
| --- | --- |
| **Solving for the Hypotenuse**  Find the value of the missing side: | **Solving for a side**  Find the value of the missing side: |

**PRACTICE:**1. Find the value of the missing sides (round to one decimal place where necessary)

|  |  |
| --- | --- |
| a. | b. |
| c. | d. |

2. My neighbour has a square vegetable garden which is 3.5m by 3.5m. He wants to put a walkway diagonally through the garden to make it easier to get the veggies in the middle. How long will his walkway be?

3. An emergency boat is on one side of a waterway and there are cries of help on the other side. The waterway is 20m wide and the boat is about 35 m down the water way from the people in need. What is the distance the boat must travel if they go directly (diagonally) to help?



3. The window of a burning building is 24 metres above the ground. A ladder that is 30m is angled to reach the window and the base is out from the wall. How far out from the wall is the ladder?

4. A 16 m long ladder leans against a house. The foot of the ladder is 7m from the house. Find the height of the ladder from the ground, correct to the nearest tenth of a meter.

**Review: Perimeter & Area of Basic Shapes**

|  |  |  |
| --- | --- | --- |
| SHAPE | PERIMETER | AREA |
| Rectangle/Square | P = 2l + 2w  P =  P = | A= l x w  A =  A = |
| Triangle | P = s1+s2+s3  P =  P = | A =  A = |
| Parallelogram | P = s1+s2+s3+s4  P =  P = | A = b x h  A =  A = |
| Circle | or  C =  C =  What would you do if you know only the radius? | A =  A =  \* remember the radius is half the diameter. |
| Trapeziod | P = a + b + s1 + s2  P =  P = | A =  A = |

**Practice: Area and Perimeter**

Find the area and perimeter (circumference) of each figure:

|  |  |  |  |
| --- | --- | --- | --- |
| a.Rectangle | b.Triangle | | c.Circle |
| d.Parallelogram | | e.Trapezoid | |
| ANSWERS: a. A=12.5m2, P=15m, b. A=54m2, P=41m, c. A=226.08m2, C=37.68m2, d. A=60km2, P=36km, e. A=59.5m2, P=33.4m | | | |

**More Area & Perimeter Practice**

Find the area and perimeter of the following shapes:

|  |  |  |
| --- | --- | --- |
| f.  http://www.helpingwithmath.com/printables/worksheets/rect02.gif | http://www.helpingwithmath.com/printables/worksheets/rect01.gifg. | http://www.helpingwithmath.com/printables/worksheets/circle10.gifh. |
| A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ | A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ | A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ |
| i.  http://www.helpingwithmath.com/printables/worksheets/perm01.gif | http://www.helpingwithmath.com/printables/worksheets/perm02.gifj. | http://www.helpingwithmath.com/printables/worksheets/circle04.gifk. |
| A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ | A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ | A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ |
| l. | m. | http://www.helpingwithmath.com/printables/worksheets/perm04.gifn. |
| A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ | A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ | A = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ |
| ANSWERS: f. 8cm2, 12cm, g. 15cm2, 16cm, h. 12.56m2, 12.56cm, i. 6cm2, 12cm, j. 30cm2, 30cm, k. 113.04cm2, 37.68cm, l. 10.4m2, 20m, m. 13cm2, 17.4cm, n. 48cm2, 30cm | | |

Area and Perimeter Problems

Complete the table for the circles with the following dimensions/measurements:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Radius | Diameter | Circumference | Area |
| o. | 7 cm |  |  |  |
| p. |  | 21 cm |  |  |
| q. |  |  | 18.84 cm |  |
| r.. |  |  |  | * 1. m2 |

|  |  |
| --- | --- |
| s. The world’s largest dish radio telescope has a diameter of 305 m. What is the circumference of the telescope? | t. A pool has a 50-m fence around 3 sides. One side is 14 m and the other sides are equal.   * 1. How long is each equal side?   2. Fence posts costing $15.59 each is placed every 2 m. how much do the posts cost? |
| u. | v. |
| Determine the simplified expression for the perimeter of this rectangle | Determine the simplified expression for the perimeter of this triangle |
| Determine the simplified expression for the area of this rectangle | Determine the simplified expression for the area of this triangle |
| Calculate the value of w if the perimeter is 76 units | Calculate the area if x=11 |
| ANSWERS: o. 14, 43.96, 493.14, p. 10.5, 65.94, 346.785, q. 3, 6, 28.26, r. 12, 24, 75.36, s. 957.7m, t. 18m, $389.75, u.P=4w+20, A=w2+10w, w=14, v. P=6x+7, A=(x2+4x)/2, 82.5units2 | |