**8.0 – Naming Triangles and Pythagoras WORKSHEET**

Name: _____

Date: _____

Labelling Triangles
   a) State: right Triangle OR not a right triangle
   b) State: equilateral, isosceles, or scalene
   c) Label the sides using lower case letters
   d) Label the sides using their endpoints

1.

a)
b)

2.



a)
b)

3.

a)
b)

4.
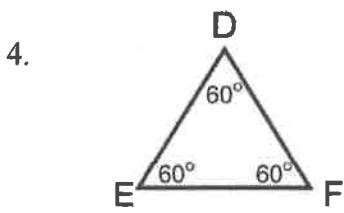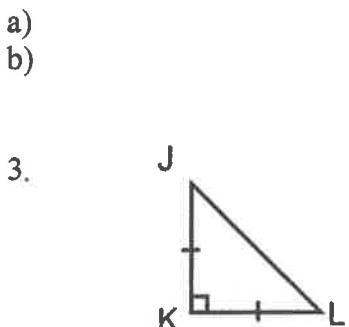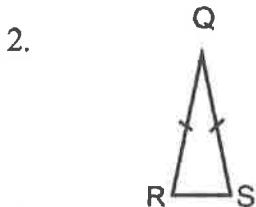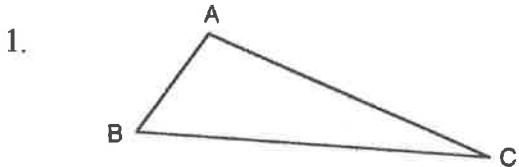
a)
b)

Labelling Angles from a Target Angle (for Right Triangles ONLY!!!) OPP, ADJ, HYP

5. Label the HYPotenuse, the side OPPosite to angle A and the side ADJacent to angle A (use A as the target angle).

a)

b)

c)
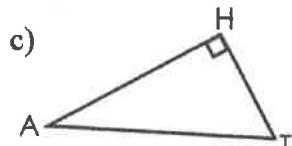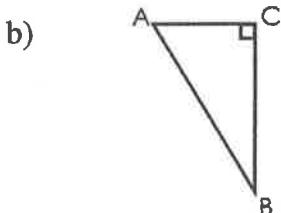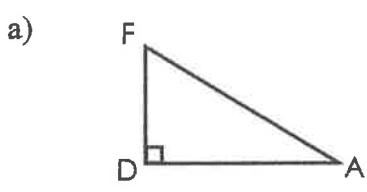
Finding Angles

6. In each triangle, find the measure of angle Y
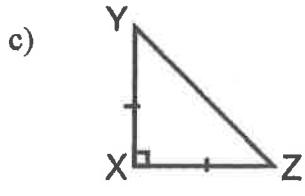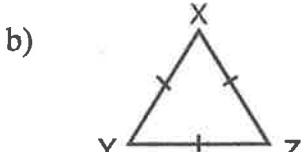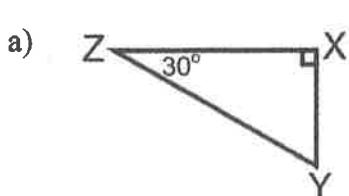
a)

b)

c)

Pythagoras

7. **Name** and **find** the missing sides (to the nearest hundredth).

a)

A

17   32

C   B

b)

D   102   E

61

F

c)

K

24

L   M

d)

P

6

Q   8   R

e)

B

26

A   20   C

f)

D   F

2.5   6.5

E

g)

J   6   K

5

L
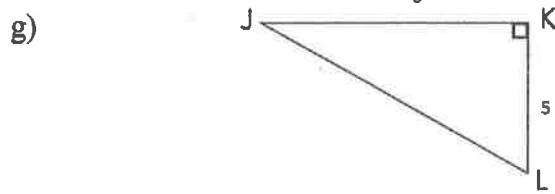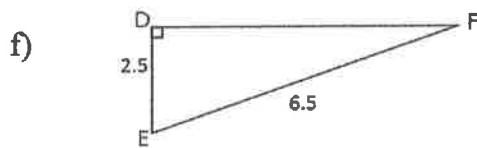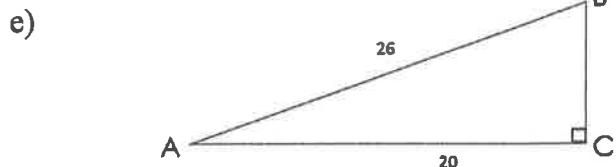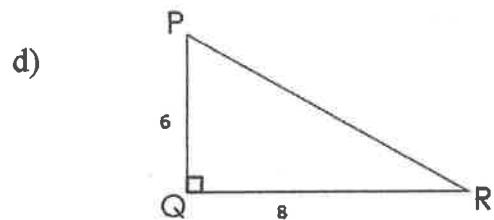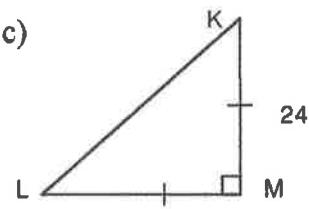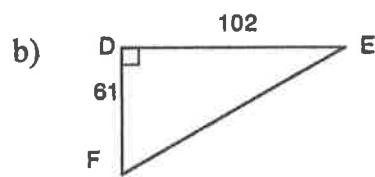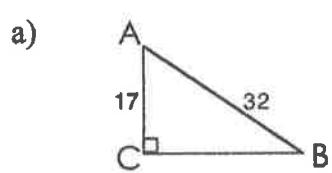
8.0 – Naming Triangles and Pythagoras WORKSHEET

Name: _____Key_____
Date: _____

Labelling Triangles
   a) State: right Triangle OR not a right triangle
   b) State: equilateral, isosceles, or scalene
   c) Label the sides using lower case letters
   d) Label the sides using their endpoints

1.

$\overline{AB} = c$ $b = \overline{AC}$ $a = \overline{BC}$

a) NOT a rt △
b) Scalene

2.

$\overline{QR} = s$ $r = \overline{QS}$ $q = \overline{RS}$

a) NOT a rt △
b) isosceles

3.

$\overline{JK} = l$ $k = \overline{JL}$ $j = \overline{KL}$

a) Right Triangle
b) isosceles

4.

$\overline{DE} = f$ 60° $e = \overline{DF}$ 60°   60° $d = \overline{EF}$
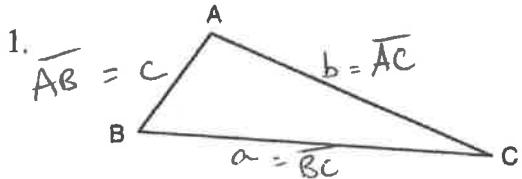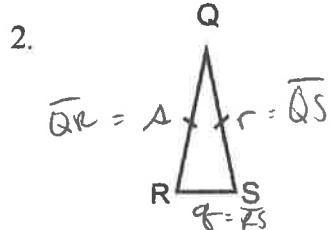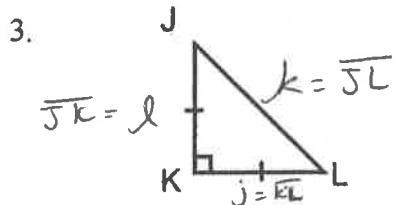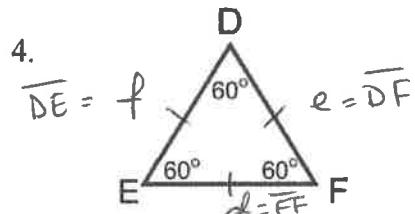
a) NOT a rt △
b) equilateral

Labelling Angles from a Target Angle (for Right Triangles ONLY!!!) OPP, ADJ, HYP

5. Label the HYPotenuse, the side OPPosite to angle A and the side ADJacent to angle A (use A as the target angle).

a) F   HYP   OPP   D   ADJ   A

b) A — ADJ — C   OPP   HYP   B

c) ADJ   H   OPP   A   HYP   T
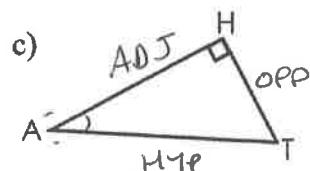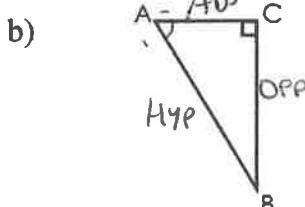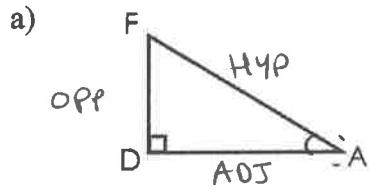
Finding Angles   all angles add to 180"

6. In each triangle, find the measure of angle Y

a) Z   30°   X   ∠0°   Y

∠Y =
180° – 90° – 30°
∠Y = 60°

b) X   All angles the same.   Y   Z

180 ÷ 3 = 60°
∠Y = 60°

c) Y   ∠Y = 45°   X   Z

∠Y = ∠Z
180° – 90° = 90°
90 ÷ 2 = 45°
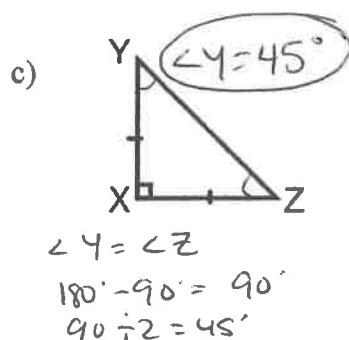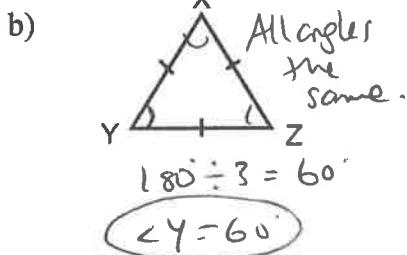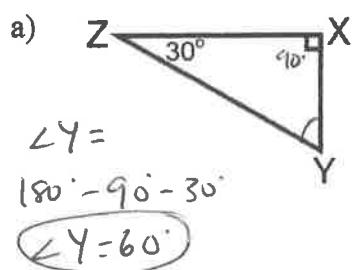
$$a^2 + b^2 = c^2 \quad \overset{\swarrow \text{hyp}}{} \qquad \text{or} \qquad a^2 = c^2 - b^2$$

Pythagoras

7. Name and **find** the missing sides (to the nearest hundredth).

a)
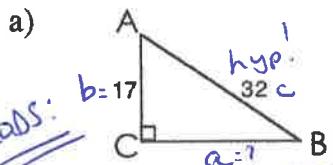
TWO METHODS:

$$a^2 = c^2 - b^2$$
$$a^2 = 32^2 - 17^2$$
$$a^2 = 735 \;\boxed{\checkmark}$$
$$\sqrt{a^2} = \sqrt{735}$$
$$\boxed{a = 27.11}$$
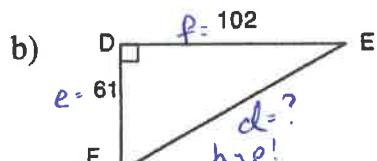
or
$$a^2 + b^2 = c^2$$
$$a^2 + 17^2 = 32^2$$
$$a^2 + 289 = 1024$$
$$\quad -289 \quad -289$$
$$a^2 = 735 \;\boxed{\checkmark}$$
$$\boxed{a = 27.11}$$

b)

$P = 102$, $e = 61$, $d = ?$ hyp!

$$e^2 + f^2 = d^2$$
$$61^2 + 102^2 = d^2$$
$$3721 + 10404 = d^2$$
$$\sqrt{14\,125} = \sqrt{d^2}$$
$$\boxed{d = 118.85}$$

c)

hyp! $m = ?$, $24 = l$, $k = 24$
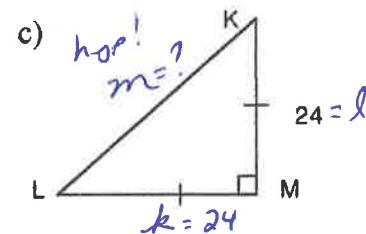
$$k^2 + l^2 = m^2$$
$$24^2 + 24^2 = m^2$$
$$576 + 576 = m^2$$
$$1152 = m^2 \;\boxed{\checkmark}$$
$$\boxed{m = 33.94}$$

d)

$r = 6$, hyp! $q = ?$, $p = 8$
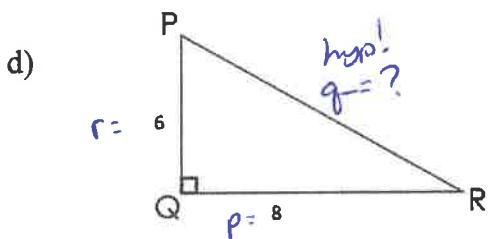
$$p^2 + r^2 = q^2$$
$$8^2 + 6^2 = q^2$$
$$64 + 36 = q^2$$
$$100 = q^2$$
$$\sqrt{100} = \sqrt{q^2}$$
$$\boxed{q = 10}$$

e)

hyp! $c = 26$, $a = ?$, $b = 20$
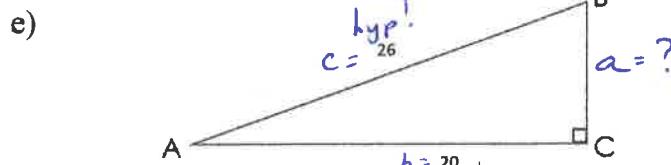
$$a^2 = c^2 - b^2$$
$$a^2 = 26^2 - 20^2$$
$$a^2 = 676 - 400$$
$$\sqrt{a^2} = \sqrt{276}$$
$$\boxed{a = 16.61}$$

f)

$e = ?$, $f = 2.5$, $d = 6.5$ hyp!
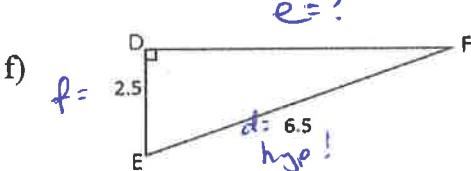
$$e^2 = d^2 - f^2$$
$$e^2 = 6.5^2 - 2.5^2$$
$$e^2 = 42.25 - 6.25$$
$$\sqrt{e^2} = \sqrt{36}$$
$$\boxed{e = 6}$$

g)

$l = 6$, $k = ?$ hyp!, $j = 5$
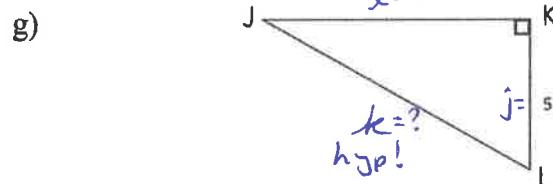
$$l^2 + j^2 = k^2$$
$$6^2 + 5^2 = k^2$$
$$36 + 25 = k^2$$
$$\sqrt{61} = \sqrt{k^2}$$
$$\boxed{k = 7.81}$$