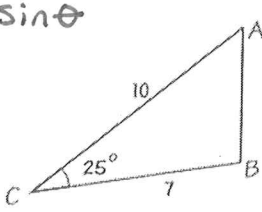


<p>Notes – Areas & Missing Parts #2 (advanced with Trig)</p>	<p>Name:</p>
<p>Standard:</p>	<p>Hour:</p>

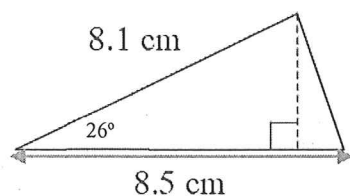
Objective: I can calculate the area of common shapes and find missing parts given the area.

Warm-up: Write the formulas for the area of each figure.

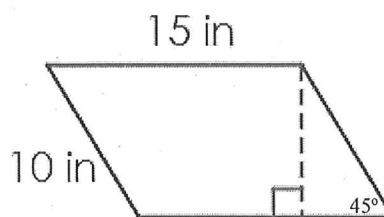
<p>Rectangle</p>	<p>Circle</p>	<p>Trapezoid</p>
<p>Parallelogram</p>	<p>Triangle</p>	<p>Triangle</p> <p>The area of triangle can also be found from two sides and the angle in between them using Trigonometry.</p> $A = \frac{1}{2}(\text{side}_1)(\text{side}_2) \sin(\text{angle})$ $A = \frac{1}{2} a \cdot b \sin \theta$ $A = \frac{1}{2}(10)(7)(\sin 25)$ $A = 14.79$ 

Directions: Find the area of each figure. If there is an *, then the answer should be exact. Round to the nearest tenth for all other problems.

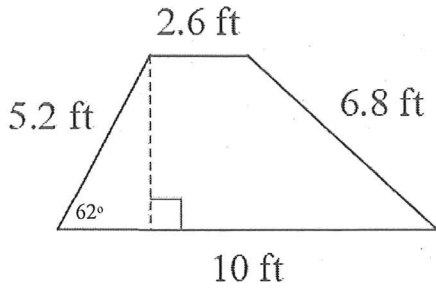
1.



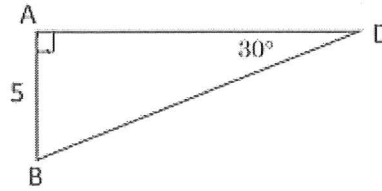
2. *



3.

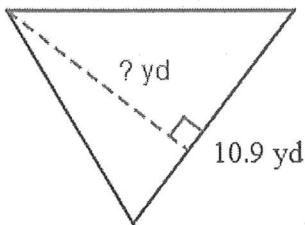


4. *



Review & SAT Prep

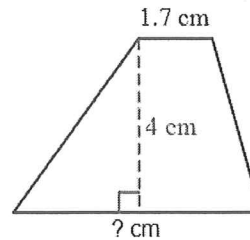
5. Find the missing height.



Area = 51.2 yd^2

Step 1: Rearrange the formula for _____.

6. Find the missing base.



Area = 14.8 cm^2

Step 1: Rearrange the formula for _____.

$$A = \frac{1}{2}h(b_1 + b_2)$$

Step 2: Now fill in numbers and calculate.

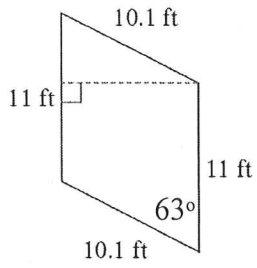
Step 2: Now fill in numbers and calculate.

Hmwk- Area & Missing Parts #2

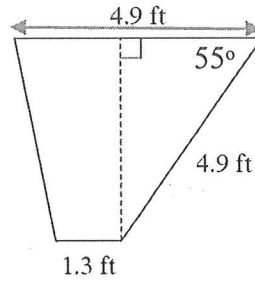
Name: _____ Date _____ Hr _____

Find the area of each figure. Round to the nearest hundredth (2 decimals) if necessary. *(use exact values for #5+6)*

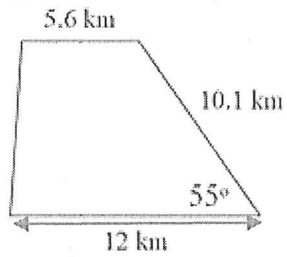
1.



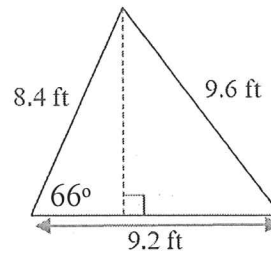
2.



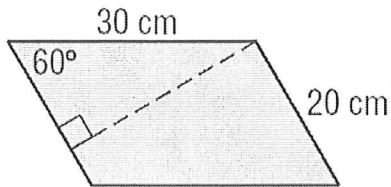
3.



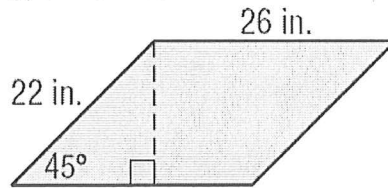
4.



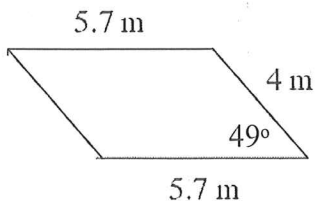
5. use exact values



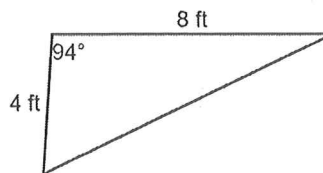
6. use exact values



7.



8.



Find the radius of each circle. Round to the nearest tenth. Be sure to use your calculator's value of pi NOT 3.14.

9. Circle with $A = 162.9 \text{ m}^2$

10. Circle with $A = 373.3 \text{ mi}^2$

Rewrite the equation in terms of the indicated variable.

11. $a^2 + b^2 = c^2$ solve for a

12. $A = \pi r^2$ solve for r

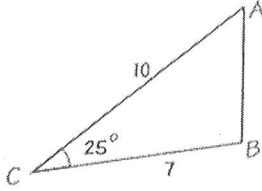
13. $A = \frac{h(b_1 + b_2)}{2}$ solve for h.

14. $\frac{pV}{T} = nR$ solve for T

Notes – Areas & Missing Parts #2 (advanced with Trig)	Name: <i>Key</i>
Standard:	Hour:

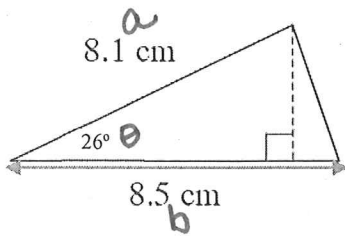
Objective: I can calculate the area of common shapes and find missing parts given the area.

Warm-up: Write the formulas for the area of each figure.

<p>Rectangle</p> $l \cdot w$	<p>Circle</p> πr^2	<p>Trapezoid</p> $\frac{1}{2} n (b_1 + b_2)$
<p>Parallelogram</p> $b \cdot h$	<p>Triangle</p> $\frac{1}{2} b \cdot h$	<p>Triangle</p> <p>The area of triangle can also be found from two sides and the angle in between them using Trigonometry.</p> $A = \frac{1}{2} (\text{side}_1)(\text{side}_2) \sin(\text{angle})$ $A = \frac{1}{2} (10)(7)(\sin 25)$ $A = 14.79$ 

Directions: Find the area of each figure. If there is an *, then the answer should be exact. Round to the nearest tenth for all other problems.

1.

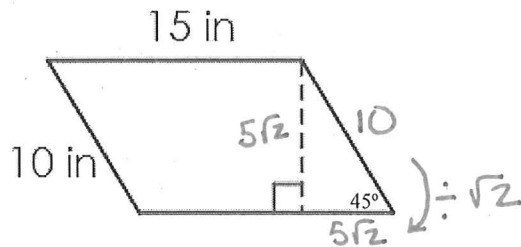


$$A = \frac{1}{2} a \cdot b \sin \theta$$

$$A = \frac{1}{2} 8.1 \times 8.5 \times \sin(26)$$

$$A \approx 15.1 \text{ cm}^2$$

2. *

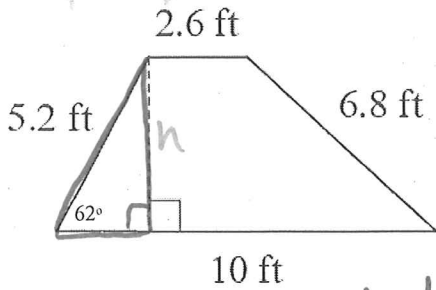


$$A = b \cdot h$$

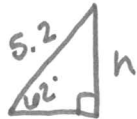
$$A = 15 \cdot 5\sqrt{2}$$

$$A = 75\sqrt{2} \text{ in}^2$$

3.



Find h



$$\sin(62) = \frac{h}{5.2}$$

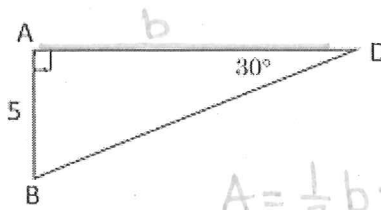
$$4.9 = h$$

$$A = \frac{1}{2} h (b_1 + b_2)$$

$$A = \frac{1}{2} 4.9 (10 + 2.6)$$

$$A \approx 30.9 \text{ ft}^2$$

4.*



$$A = \frac{1}{2} b \cdot h$$

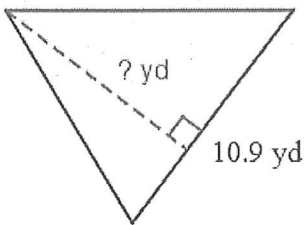
Find $b = 5\sqrt{3}$

$$A = \frac{1}{2} 5\sqrt{3} \cdot 5$$

$$A = 12.5\sqrt{3} \text{ units}^2$$

Review & SAT Prep

5. Find the missing height.



Area = 51.2 yd²

Step 1: Rearrange the formula for h.

$$A = \frac{bh}{2}$$

$$A = \frac{1}{2} b \cdot h$$

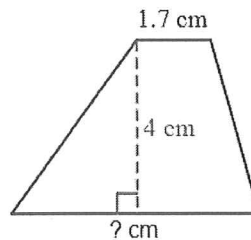
$$51.2 = \frac{1}{2} 10.9 \cdot h$$

$$51.2 = 5.45h$$

$$h \approx 9.4 \text{ yd}$$

Step 2: Now fill in numbers and calculate.

6. Find the missing base.



Area = 14.8 cm²

Step 1: Rearrange the formula for b₁.

$$A = \frac{1}{2} h (b_1 + b_2)$$

$$14.8 = \frac{1}{2} 4 (b + 1.7)$$

$$14.8 = 2 (b + 1.7)$$

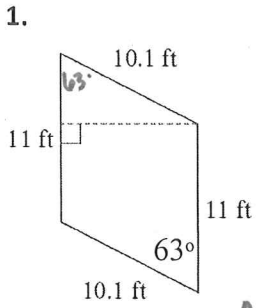
$$14.8 = 2b + 3.4$$

$$\frac{11.4}{2} = \frac{2b}{2}$$

$$b = 5.7 \text{ cm}$$

Step 2: Now fill in numbers and calculate.

Find the area of each figure. Round to the nearest hundredth (2 decimals) if necessary.

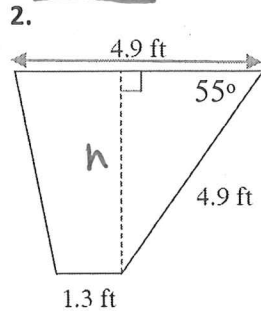


$$\sin(63) = \frac{h}{10.1}$$

$$h \approx 9.00 \text{ ft}$$

$$A = 11 \times 9$$

$$A \approx 99 \text{ ft}^2$$

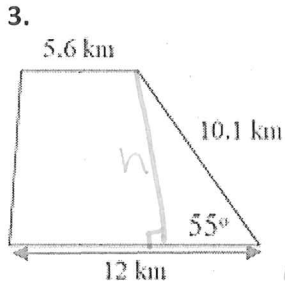


$$\sin(55) = \frac{h}{4.9}$$

$$4.01 = h$$

$$A = \frac{1}{2}(4.01)(4.9 + 1.3)$$

$$A \approx 12.43 \text{ ft}^2$$

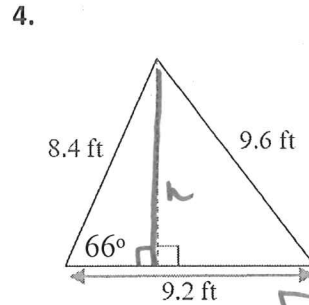


$$\sin(55) = \frac{h}{10.1}$$

$$h \approx 8.27$$

$$A = \frac{1}{2}(8.27)(5.6 + 12)$$

$$A \approx 72.78 \text{ km}^2$$



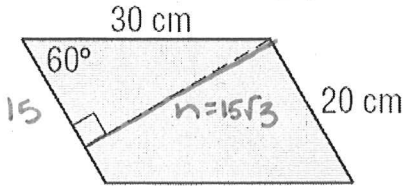
$$\sin(66) = \frac{h}{8.4}$$

$$h \approx 7.67 \text{ ft}$$

$$A = \frac{1}{2}(9.2)(7.67)$$

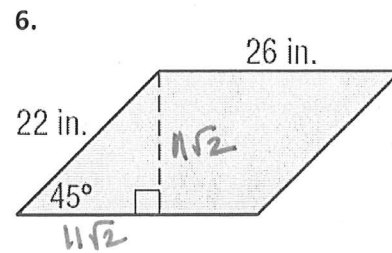
$$A \approx 35.28 \text{ ft}^2$$

5. use exact values for #5+6



$$A = 20 \cdot 15\sqrt{3}$$

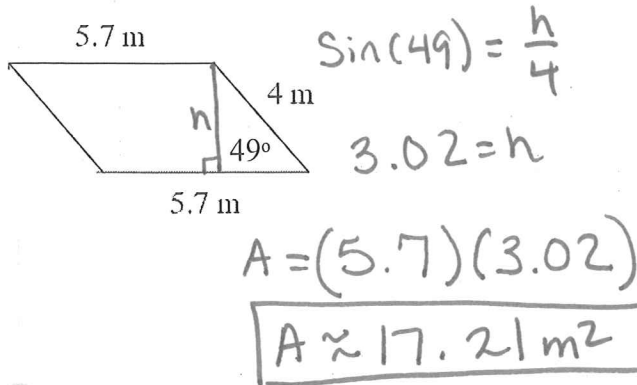
$$A = 300\sqrt{3} \text{ cm}^2$$



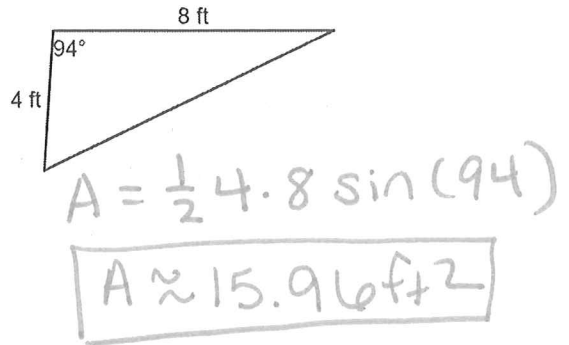
$$A = 26 \cdot 11\sqrt{2}$$

$$A = 286\sqrt{2} \text{ in}^2$$

7.



8.



Find the radius of each circle. Round to the nearest tenth. Be sure to use your calculator's value of pi NOT 3.14.

9. Circle with $A = 162.9 \text{ m}^2$

$\pi r^2 = A$
 $\pi r^2 = 162.9$ \div both sides by π to get r^2 alone
 $r^2 = 51.85$
 $r \approx 7.20 \text{ m}$

10. Circle with $A = 373.3 \text{ mi}^2$

$\pi r^2 = A$
 $\pi r^2 = 373.3$
 $r^2 = 118.83$
 $r \approx 10.9 \text{ mi}$

Rewrite the equation in terms of the indicated variable.

11. $a^2 + b^2 = c^2$ solve for a

$-b^2 - b^2$
 $a^2 = c^2 - b^2$
 $a = \sqrt{c^2 - b^2}$

12. $A = \pi r^2$ solve for r

$\frac{A}{\pi} = r^2$
 $\sqrt{\frac{A}{\pi}} = r$

13. $A = \frac{h(b_1 + b_2)}{2}$ solve for h .

$A = \frac{h(b_1 + b_2)}{2}$
 $2A = h(b_1 + b_2)$
 $h = \frac{2A}{b_1 + b_2}$

14. $\frac{pV}{T} = nR$ solve for T

$\frac{pV}{nR} = \frac{TnR}{nR}$
 $\frac{pV}{nR} = T$