

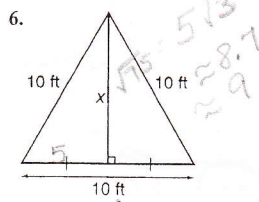
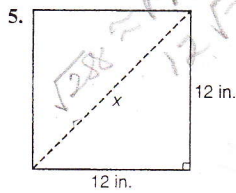
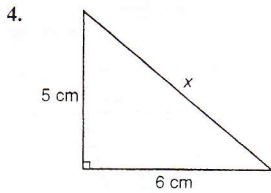
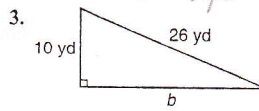
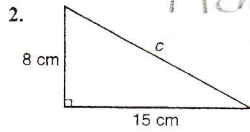
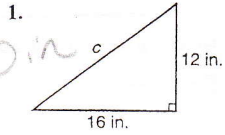
9-4

Practice

Name KEY Date _____

The Pythagorean Theorem

Write an equation you could use to find the length of the missing side of each right triangle. Then find the missing length. Round to the nearest tenth.



7. $a = 24$ ft; $b = 32$ ft

$576 + 1024 = c^2$
 $\sqrt{1600} = 40$

8. $a = 9$ ft; $c = 16$ ft

$81 + b^2 = 256$
 $b^2 = 175$ $\sqrt{175} \approx 13.2$

9. $b = 5$ in.; $c = 11$ in.

$a^2 + 25 = 121$
 $a^2 = 96$ $\sqrt{96} \approx 9.8$

10. $a = 8$ cm; $b = 12$ cm

$64 + 144 = c^2$
 $208 = c^2$
 $\sqrt{208} \approx 14.4$

11. $b = 15$ yd; $c = 21$ yd

$a^2 + 225 = 441$
 $a^2 = 216$ $\sqrt{216} \approx 14.7 \approx 15$

12. $a = 6.3$ cm; $c = 12.4$ cm

$39.69 + b^2 = 153.76$
 $b^2 = 114.07$
 $b \approx 10.7$

Determine whether each triangle with sides of given lengths is a right triangle.

13. 6 cm, 8 cm, 10 cm

Yes

14. 9 mm, 12 mm, 16 mm

no

15. 18 ft, 80 ft, 82 ft

Yes

16. 10 mi, 24 mi, 25 mi

NO

17. 15 cm, 36 cm, 39 cm

Yes

18. 16 yd, 30 yd, 34 yd

Yes

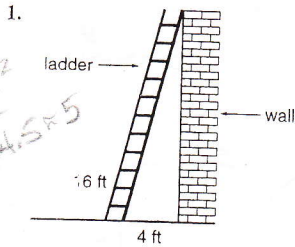
9-5

Name _____ Date _____

Practice

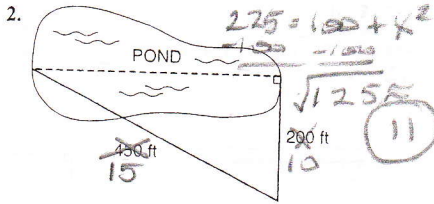
Using the Pythagorean Theorem

Write an equation that can be used to answer each question. Then solve. Round to the nearest tenth.



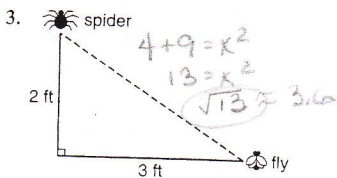
Handwritten work for problem 1:
 $36 = 16 + x^2$
 $20 = x^2$
 $2\sqrt{5} \approx 4.5 \times 5$
 $2\sqrt{5}$ (circled)

How high will the ladder reach?



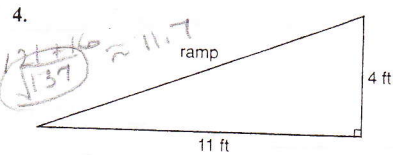
Handwritten work for problem 2:
 $15^2 = 10^2 + x^2$
 $225 = 100 + x^2$
 $125 = x^2$
 $\sqrt{125} \approx 11$
 11 (circled)

How far is it across the pond?



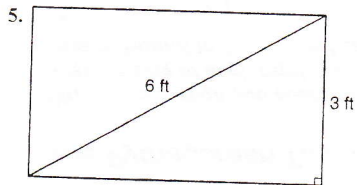
Handwritten work for problem 3:
 $4 + 9 = x^2$
 $13 = x^2$
 $\sqrt{13} \approx 3.6$
 $\sqrt{13}$ (circled)

How far apart are the spider and fly?



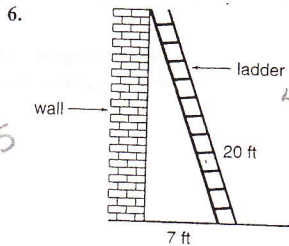
Handwritten work for problem 4:
 $12^2 = 4^2 + x^2$
 $144 = 16 + x^2$
 $128 = x^2$
 $\sqrt{128} \approx 11.7$
 $\sqrt{128}$ (circled)

How long is the ramp?



How long is the tabletop?

Handwritten work for problem 5:
 $9 + x^2 = 36$
 $x^2 = 27$
 $3\sqrt{3} \approx 5.2 \times 5$
 $3\sqrt{3}$ (circled)



Handwritten work for problem 6:
 $49 + x^2 = 400$
 $x^2 = 351$
 $\sqrt{351} \approx 18.7$
 $3\sqrt{39}$ (circled)

How high will the ladder reach?

For each Pythagorean triple, find two triples in the same family.

7. 7 - 24 - 25

8. 3 - 4 - 5

9. 5 - 12 - 13