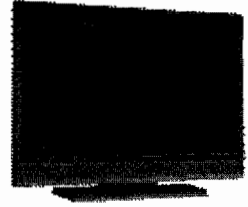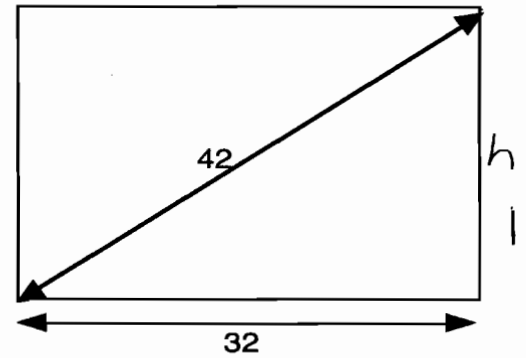# Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ? $\underline{27.2}$ ✓

   Show how you know.

   $$32^2 + h^2 = 42^2$$
   $$1024 + h^2 = 1764$$
   $$h^2 = 1764 - 1024$$
   $$= 740$$
   $$h = \sqrt{740}$$
   $$= 27.2$$

2. What is the area of the screen? $\underline{870.4}$ square inches ✓

   $$27.2 \cdot 32 = 870.4$$

3. Jane would like to have a screen 40 inches wide and 32 inches high. About what size screen will she need to buy? $\underline{51}$ inches ✓
   Show how you figured this out

   $$40^2 + 32^2 = S^2$$
   $$1600 + 1024 = 2624$$
   $$S = \sqrt{2624}$$
   $$= 51.2$$

2

1

1

1

6

⑥

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she is not sure what size screen will be suitable for her wall. This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.
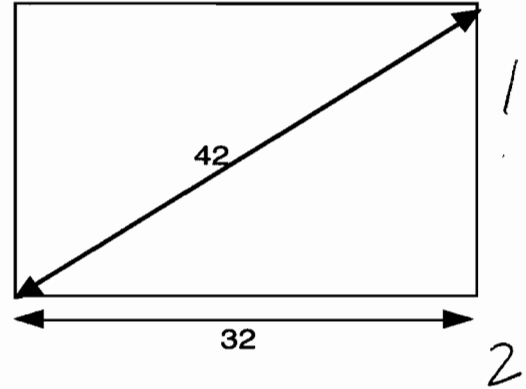
1. What is the height of the screen ? $\underline{27.2}$ ✓

   Show how you know.

   $32^2 + 2^2 = 42^2$

   $1024 \qquad 1764$
   $\qquad\quad -1024$
   $\qquad\quad \overline{0740}$

   $\sqrt{740} = 27.2$ ✓

   hypotenuse
   ↑
   (triangle) areas

   42

   32

   1

   2

2. What is the area of the screen? $\underline{870.4}$ ✓ square inches

   $32 \cdot 27.2 = 870.4$

   1

3. Jane would like to have a screen 40 inches wide and 32 inches high. About what size screen will she need to buy? $\underline{1280}$ X inches O
   Show how you figured this out

   40
   32
   $\overline{80}$
   $12\ 00$
   $\overline{1280}$ X

   O

   ④

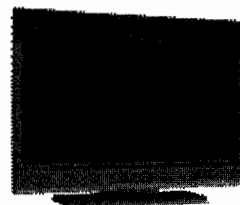   6

Page 3   Jane's TV

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

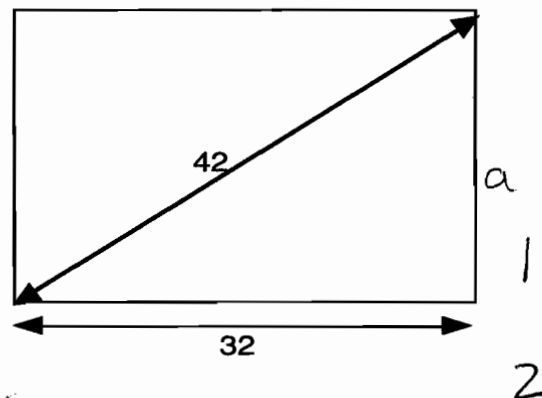1. What is the height of the screen ?   _27.22_ ✓

   Show how you know.

   $$a^2 + b^2 = c^2$$
   $$32^2 + b^2 = 42^2$$
   $$42^2 - 32^2 = b^2$$
   $$1764 - 1024 = 740 ✓$$

   $\sqrt{740}$ ✓

   42   a

   32

   1

   2

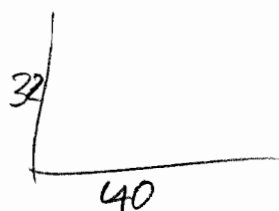2. What is the area of the screen?   _100.53_ square inches   O

   $32 \times \pi$

3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy?   _51.2_ inches   1
   Show how you figured this out

   51 ✓

   32 ⌐
   40

   $$40^2 + 32^2 =$$
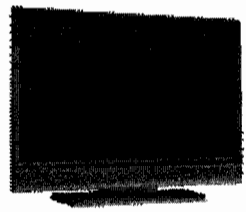 $$1600 \quad 1024$$
   $$2624 \qquad 51.2 ✓$$

   1

Jane's TV

6 ⑤

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
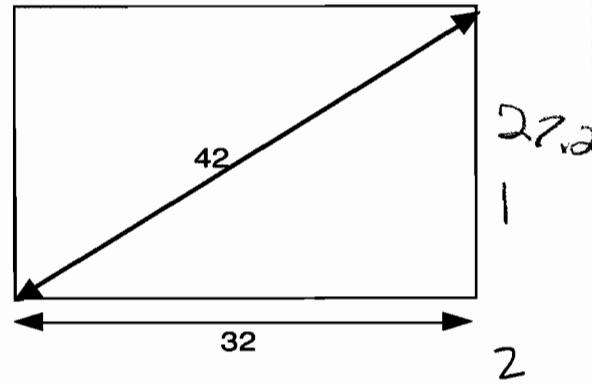This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ? __27.2__ ✓

   Show how you know.

   $$3\overset{2}{2} + b = 42^{2}$$
   $$1024 + b = 1764$$
   $$\sqrt{740}$$ ✓

   $27,2$

   3.14

2. What is the area of the screen? __85.40__ square inches ○

   $3.14 \times 27,25$
   ✗

3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy?
   Show how you figured this out

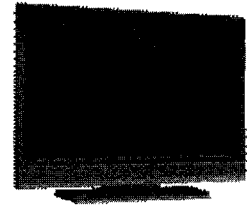   __12861.4__ inches ○
   ✗

   $3.14 (32^{2}) \times 4$
   ✗

   ○

   6 ③

Jane's TV

Jane's T.V.

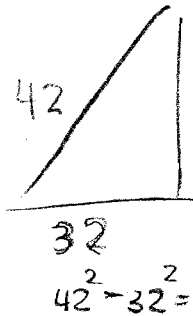This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ? $\underline{27.20}$ ✓
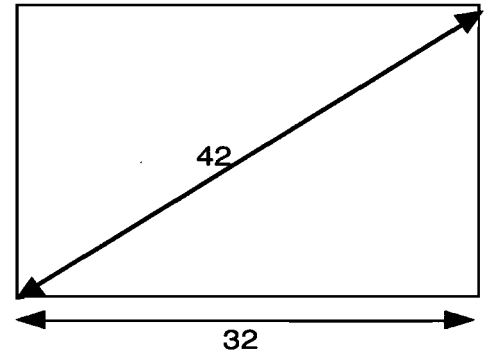
   Show how you know. $a^2 + b^2 = c^2$

   $b^2 = 27.20$ ✓

   $32^2 + b^2 = 42^2$ ✓

   $42^2 - 32^2 =$

2. What is the area of the screen? $\underline{1764}$ ✗ square inches
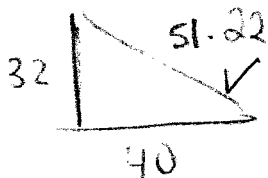
   $42^2 = 1764$
        ✗

3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy? $\underline{2624}$ inches
   Show how you figured this out

   $32^2 + 40^2 = c^2$

   $c^2 = 2624$ ✓

   $c = 51.22$ ✓

   42 diagram: 51.22 ✓, 32, 40
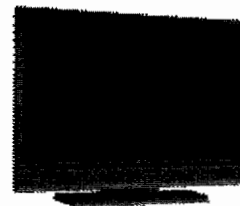
2

6

0

0

0

1

④

6

Jane's TV

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she is not sure what size screen will be suitable for her wall.
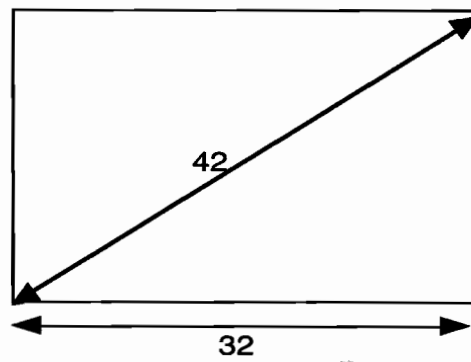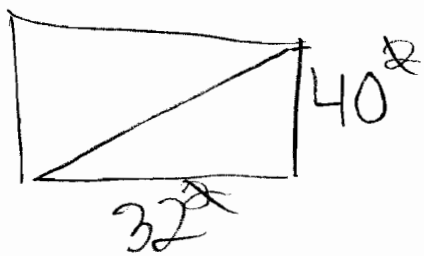This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ? $\sqrt{1740} = a$ ✓

   Show how you know.

   I wrote the equation but I added a variable for the hieght. I did $32^2 + a^2 = 42^2$ the oppisite and came with 740. ✓

2. What is the area of the screen? $\underline{810.49}$ square inches   /

   $42^2 = a^2 + \sqrt{1740}^2$

   $32 \times \sqrt{1740}$ ✓

3. Jane would like to have a screen 40 inches wide and 32 inches high. $\underline{51}$ ✓ inches
   About what size screen will she need to buy?
   Show how you figured this out

   $32^2 + 40^2 =$ ✓

   $1024 + 1600 = 2624$
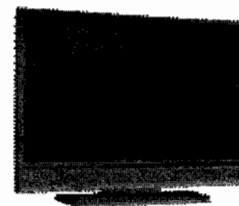
   $\sqrt{2624}$ ✓

   (6)

S2

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen? __27.2__ ✓

   Show how you know.

   $42^2 - 32^2 = 740 \sqrt{740} = 27$ ✓

   42   32

   1

   2

2. What is the area of the screen? __807__ ✗ ___square inches   6

3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy?   __51__ inches   1
   Show how you figured this out   ✓

λ

0

(4)

6

Jane's TV

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
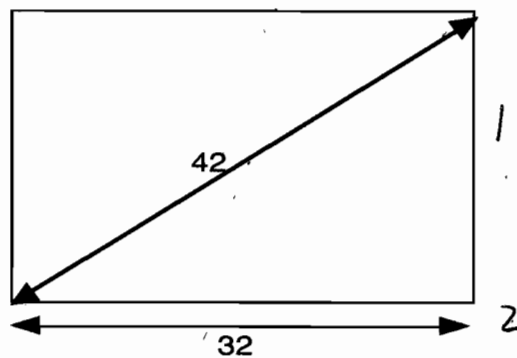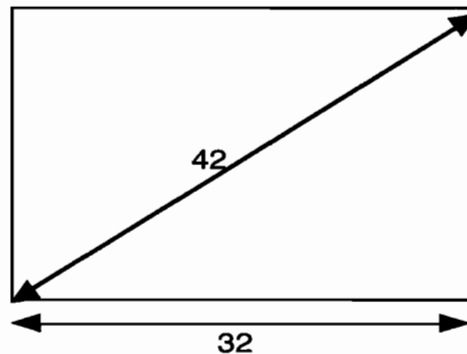This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ?   <u>27.2 ins</u>

   Show how you know.

   $$h^2 = 42^2 - 32^2$$
   $$= 740$$

[Figure: rectangle with diagonal labeled 42, base labeled 32]

2. What is the area of the screen?   <u>870.4</u> square inches

   $$32 \times 27.2$$

3. Jane would like to have a screen 40 inches wide and 32 inches high.
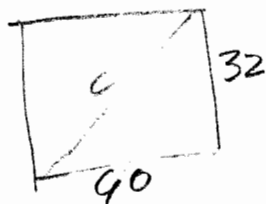   About what size screen will she need to buy?   <u>51</u> inches
   Show how you figured this out

   $$32^2 + 40^2 = c^2$$
   $$2624$$
   $$51.22$$

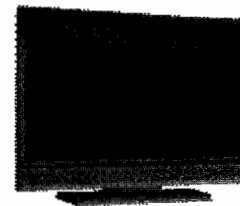[Figure: square with sides labeled c, 32, 40]

⑥

6

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

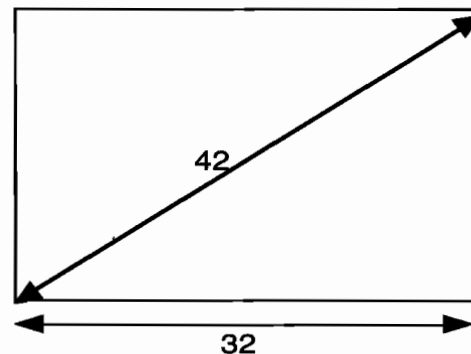This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ?   about 27.2 ✓

   Show how you know.

   $42^2 = 1764$
   $32^2 = 1024$

   740 ✓

   42

   32

   ~~32 x 21~~

2. What is the area of the screen?   2187.54 square inches   0

   $3.14 \times 16.16 \times 27.2 = 21875.54$
   $A = \pi \cdot r \cdot r \cdot h$

3. Jane would like to have a screen 40 inches wide and 32 inches high.
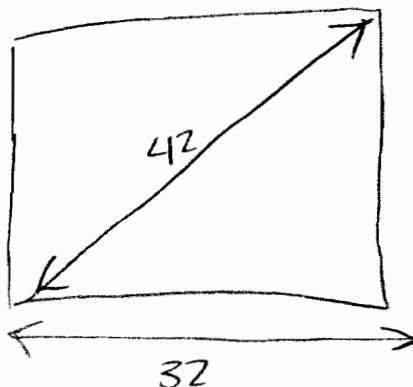   About what size screen will she need to buy?   26.24 inches   0
   Show how you figured this out

   $40^2 = 1600$
   $32^2 = 1024$ ✓

   42

   32

③

S5

Jane's T.V.

This problem gives you the chance to:
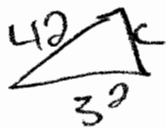• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen? __10 in.__ X

   Show how you know.

   42 ∕| ⊀

   32ᵈ

   $c^2 - d^2 = b^2$ $42 - 32 = 10$ ∧

   $42 - 32^2 = b^2$ ✓

   $3^2 = 10$ ↘

   42 ╱ 0

   32

   320 ∨   1st

2. What is the area of the screen? _____320_____ square inches
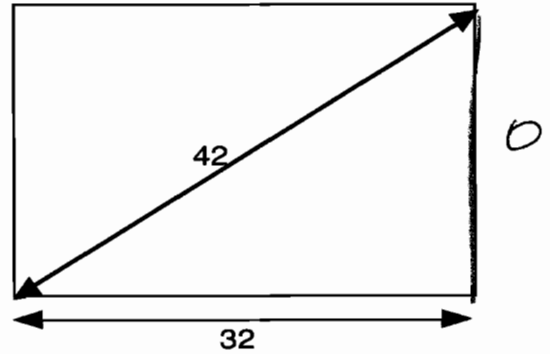
   $32 \times 10 = 320$

3. Jane would like to have a screen 40 inches wide and 32 inches high.   __144__ inches   0
   About what size screen will she need to buy?
   Show how you figured this out   X

   [square] 32

   40

   $40 + 40 + 32 + 32 = 144$ X

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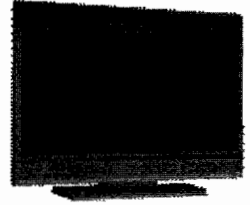Resource Service. All rights reserved.

6 1

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.
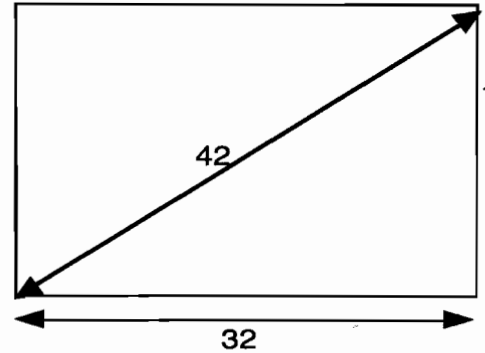
1. What is the height of the screen? $b = \sqrt{740}$

     Show how you know. 27.2 ✓

$$32^2 + C = 42^2$$

$$1024 + b = 1764$$

42

32

2.

2. What is the area of the screen? 300 ✗ square inches   Ⓞ
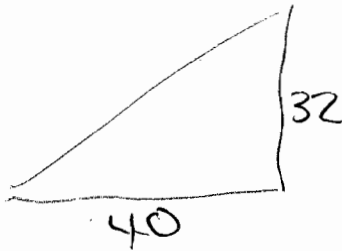
3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy?   ✓ $\sqrt{2624}$ inches   I
   Show how you figured this out

32

40

$$32^2 + 40^2 = C^2$$

$$1024 + 1600 = C^2$$

6

Jane's TV ⑤

S7

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she is not sure what size screen will be suitable for her wall. This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen? 27.2 /

Show how you know.

$$a^2 + b^2 = c^2$$
$$32^2 + a^2 = 42^2$$
$$a^2 = 8704 - 1024$$
$$a = \sqrt{704}$$ /   ∧   (1)
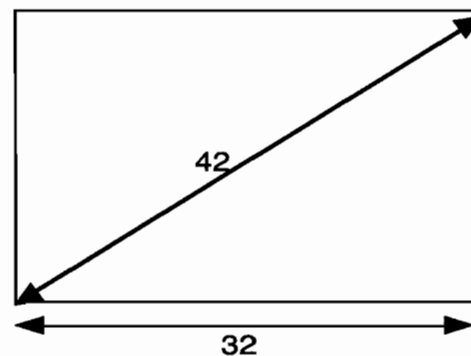
2. What is the area of the screen? 1344 square inches   O

$$32 \cdot 42 =$$ ✗

3. Jane would like to have a screen 40 inches wide and 32 inches high. About what size screen will she need to buy? 51 inches   /
Show how you figured this out

$$32^2 + 40^2 -$$
$$\sqrt{2624}$$

/

④

Jane's TV

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she
is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.
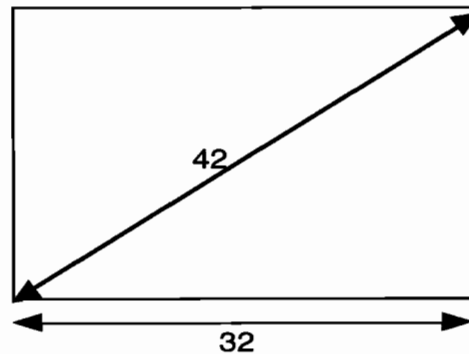
1. What is the height of the screen ?   <u>53 in</u> ✗

   Show how you know.

   $$42^2 + 32^2 = c^2$$
   $$1764 + 1024 = c^2$$
   $$c = 2788 \quad \sqrt{2788} = 52.8 \text{ or } 53$$

   42   32

   6

   0

2. What is the area of the screen?   <u>1696</u> ✓ square inches #1

   $$32 \times 53$$

3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy?   <u>24</u> ✗ inches 6
   Show how you figured this out

   $$32^2 + b^2 = 40^2 \qquad 3^2 + 24^2 = 40^2 ✓$$
   $$1024 + b^2 = 1600 \qquad 1024 + 576 = 1600 ✓$$
   $$-1024 \qquad\qquad -1024 \qquad\qquad ✗$$
   $$\qquad\qquad\qquad 576$$
   $$b = 576 \qquad \sqrt{576} = 24$$

   0.

   6 ①

Jane's TV

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she is not sure what size screen will be suitable for her wall. This is because television screens are measured by their diagonal line.
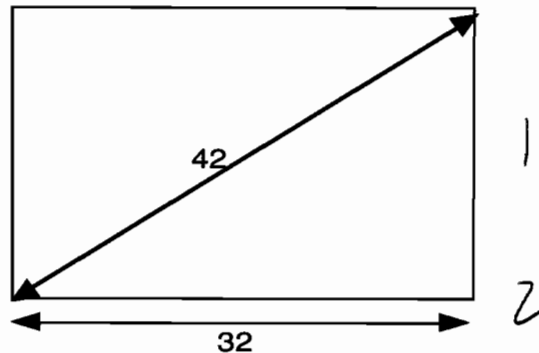
This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen? __27.2__ ∕ |

   Show how you know.

   $$42^2 - 32^2 = 740 \quad \diagup$$

42

32   2

2. What is the area of the screen?   __870.4__ square inches |

   $$32 \cdot 27.2$$

3. Jane would like to have a screen 40 inches wide and 32 inches high. About what size screen will she need to buy? Show how you figured this out

   _____inches   0   0   0

   $$40^2 + 32^2 = 2624$$
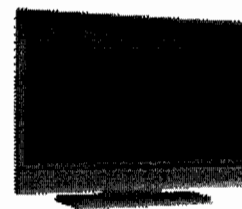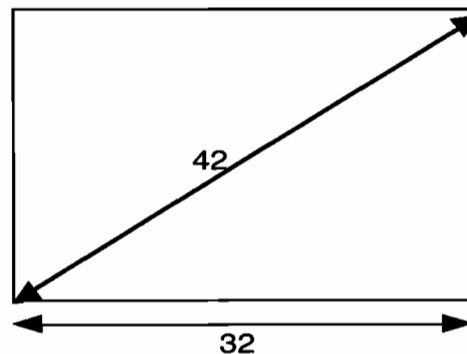   ∧

X

Jane's TV

④
6

Jane's T.V.

This problem gives you the chance to:
• use Pythagoras' theorem

Jane is hoping to buy a large new television for her den, but she is not sure what size screen will be suitable for her wall.
This is because television screens are measured by their diagonal line.

This 42 inch screen measures 32 inches along the base.

1. What is the height of the screen ? 24.20 ✓

Show how you know.

$$a^2 + 32^2 = 42^2$$ ✓
$$a^2 + 1024 = 1764$$
$$a^2 = 740$$
$$\sqrt{740}$$ ✓

.1

42

32

2

2. What is the area of the screen? 870.4 ____square inches   1

$$24.20 \cdot 32$$ ✓

3. Jane would like to have a screen 40 inches wide and 32 inches high.
   About what size screen will she need to buy? 51.22 inches   1
   Show how you figured this out   or 51

$$40^2 + 32^2 = c^2$$ ✓ $= 2624$
$$1600 + 1024 = c^2$$ $\sqrt{2624} = 51.22$ ✓

6 ⑥

Jane's TV